APPLICATION FOR AUTHORIZATION TO USE RADIOACTIVE MATERIAL -- NON-HUMAN USE

(TYPE OR PRINT LEGIBLY)

Inactive
Bldg. 2
DCI

A. GENERAL INFORMATION

APPLICATION FOR: ___ NEW AUTHORIZATION __X__ RENEWAL OF AUTHORIZATION NUMBER 511 ___ AMENDMENT TO NUMBER _____

APPLICANT'S NAME *(LAST, FIRST, MI)*	APPLICANT MAILING ADDRESS *(INCLUDE ORGAN.*
Tuttle, R. ~~Michael MAJ~~	Klye Metablic Unit Lab/Dept. of Clinical Inv Walter Reed Army Medical Center Washington, D.C. 20307
TELEPHONE NUMBER: (202) 782-5214	FAX NUMBER: (202) 782-9077

B. AUTHORIZED USERS (PLEASE LIST ON PAGE 2)

C. RADIOACTIVITY USAGE LOCATION

LOCATIONS WHERE MATERIALS WILL BE USED (*BUILDING AND ASSOCIATED ROOMS*):
Building 2 Rooms ~~7E10A~~, ~~7Z68~~, ~~6270~~, 6260-1

APPROVED BY RCC 8/12/97

LOCATIONS WHERE MATERIALS WILL BE STORED (*BUILDING AND ASSOCIATED ROOMS*):
Building 2 Rooms ~~7E10A~~, ~~7Z68~~, ~~6270~~, 6260-1

LOCATIONS OF WASTE DISPOSAL SINKS (*BUILDING AND ASSOCIATED ROOMS*):
~~Building 2 Rooms 7Z68~~

D. RADIOACTIVE MATERIAL DATA

RADIOISOTOPE	CHEMICAL AND/OR PHYSICAL FORM (*SEALED AND/OR UNSEALED*)	POSSESSION LIMIT	USE
S-35	Unsealed/nucleotide/liquid	3.0E+01 mCi	In vitro labeling of nucleic acids
P-33	Unsealed/nucleotide/liquid	2.0E+01 mCi	In vitro labeling of nucleic acids
P-32	Unsealed/nucleotide/liquid	4.0E+01 mCi	In vitro labelingof nucleic acids and proteins
C-14	Unsealed/steriod/liquid	3.0E+01 mCi	In vitro labeling of cell cultures
H-3	Unsealed/ steriod /liquid	8.0E+01 mCi	In vitro labeling of cell cultures
I-125	Unsealed/antibody, ligand/liquid and solid	2.3E+01 mCi	RIA, In vitro labeling of cell cultures
Eu-152	Sealed Source	4.0E-02 mCi	LSC Sealed Sources
Ra-226	Sealed Source	1.0E-02 mCi	LSC Sealed Sources

E. CERTIFICATE (*THIS SECTION MUST BE COMPLETED BY APPLICANT*)

I CERTIFY THAT THIS APPLICATION IS PREPARED IN CONFORMITY WITH WRAMC REGULATIONS AND THAT ALL CONTAINED HEREIN, INCLUDING ANY SUPPLEMENTS ATTACHED HERETO, IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

I ACKNOWLEDGE MY RESPONSIBILITY AS **PRINCIPAL INVESTIGATOR** AS DEFINED IN WRAMC REGULATIONS.	**ADMINISTRATIVE APPROVAL** - CHIEF, DEPT. OR DIVISION (THE IMMEDIATE SUPERVISOR) OF THE PRINCIPAL INVESTIGATOR.
R. Michael Tuttle SIGNATURE OF PRINCIPAL INVESTIGATOR	SIGNATURE OF CHIEF, DEPT. OR DIV.
25 June 97 DATE	27 June 97 DATE

F. WRAMC RADIATION CONTROL COMMITTEE APPROVAL

APPROVED:	APPROVED:	AUTHORIZATION NO. :
WILLIAM B. JOHNSON COL, MS CHIEF, HEALTH PHYSICS OFFICE	DAVID W. BUSTA CHIEF Health Physics, WRAMC	511
HEALTH PHYSICS OFFICER, WRAMC	CHAIRPERSON SUBCOMMITTEE FOR NON-HUMAN USE: RADIATION CONTROL COMMITTEE, WRAMC	EXPIRATION DATE: May 2000

PAGE 1 **This Application is given interim approval until the next meeting of the RCC which is scheduled for:** 8/97

11 JUL 1997

B. AUTHORIZED USERS		
LIST ALL CO-INVESTIGATORS	LIST ALL TRAINEES	LIST ALL STAFF WORKERS
Nicholson, Diarmuid		Anderson, Jeffrey Barnes, Susan Lukes, Yvonne Martin, Jesse Lahiri, Sabita

DEFINITIONS FOR USERS
A "**Co-Investigator**" is an individual who possesses adequate training and experience with radioactive material to quality as a Principle User. The individual works under the direction of and is responsible to the Principal User for the safe and proper use of the materials specified in the application. List all Co-Investigators alphabetically by last name. Each Co-Investigator should be identified as follows: last name, first name, middle initial and rank/grade. Attach a completed Training and Experience Form for each Co-Investigator, if a **current** copy is not on file with the Health Physics Office.
A "**Trainee**" is an individual who works under the direct supervision of a Principal User or Co-Investigator for the purpose of obtaining the necessary training and experience to qualify for either status. . List all Trainees alphabetically by last name. Each Trainees should be identified as follows: last name, first name, middle initial and rank/grade.
A "**Staff Worker**" is an individual who works under the direct supervision of a Principal User or Co-Investigator for the purpose of performing certain routine duties associated with the use of radioactive materials specified in the application. The individual does not possess suitable training and experience to be classified as Principal User or Co-Investigator and is not undergoing training that would qualify the individual to attain either status. List all Staff Workers alphabetically by last name. Each Staff Worker should be identified as follows: last name, first name, middle initial and rank/grade.

AUTHORIZATION REVIEW PROCESS

AUTHORIZATION: 511 **DATE:** 6/27/97

RMC BRANCH

	Initials Pending	Initials Complete	Comments
WRAMC Form 538		DNB	Current
WRAMC Form 1643		DNB	Current
Authorization or Amendments		DNB	Renewal
Protocol		DNB	waiting for updated Completed 7/1/97
Isotopes		DNB	none

OPERATIONS BRANCH

Pre-room Survey		ARM	wash sink 7E10A
Admin Hold Survey		ARM	
Final Survey		ARM	6Z70? YES
Bioassay Program		ARM	Current A52
Dosimetry Program		ARM	
Instrumentation		ARM	

Wash Sink posted 7E10A + Added to CHANGE
Add 6Z70 to Auth

DEPARTMENT OF THE ARMY
WALTER REED ARMY MEDICAL CENTER
WASHINGTON, DC 20307-5001

REPLY TO
ATTENTION OF:

3 June, 1999

To: Ms. Vanessa Cox
COL William B Johnson, Chief Health Physics

From: LTC Henry B. Burch, Assistant-Chief, Endocrine-Metabolic Service

1. This memorandum details changes in rooms in which experiments using radioisotopes are performed by researchers on the Endocrinology Service (Authorization #511, PI, LTC Burch).

2. Room 7E10a, Building 2, is currently designated as an isotope room. This summer, 7e10a will be converted into a storage room. No further experiments will be performed in this room as of today.

3. Room 6Z60, Building 2, is a fully equipped laboratory operated by the Endocrinology service. We would like to designate this room as isotope-ready, pending any administrative procedures required through your office. Room added on hold, until work is eminent.

4. Thank you for your assistance in this matter and please contact the undersigned with any questions pertaining to this room change. Although I will be on TDY and leave from 11 June-29 June, an alternate POC during this time period is Ms. Phyllis Rhooms, who can be reached at 782-6697.

Signed,

Henry B. Burch, M.D.
LTC, Medical Corps, U.S. Army
Assistant Chief, Endocrine-Metabolic Service
Phone (202) 782-5236
FAX (202) 782-0187

cf
Ms. Phyllis Rhooms
Mr. Jeffery Anderson
Mr. Maged Abdel-Rahim
MAJ Mike Tuttle
MAJ Victor Bernet

APPROVED BY RCC

on SEP 8 1999
DATE

This Application is given interim approval until the next meeting of the RCC which is scheduled for: 8/99

JUN 23 1999

WILLIAM B. JOHNSON
COL, MS
CHIEF, HEALTH PHYSICS OFFICE

2_7E10A

Room Final

6/7/99
Survey_Final_Form

Room: 7E10A **Building:** 2, Heaton Pavilion **Site:** Walter Reed AMC

Area: M-2 **Image:** 2-7e10a.bmp **Authorization:** Burch, Henry (511)

Department: Auth, 511, Clinical Investigation **Last / Next Inspection:** 5/20/99 / 6/19/99

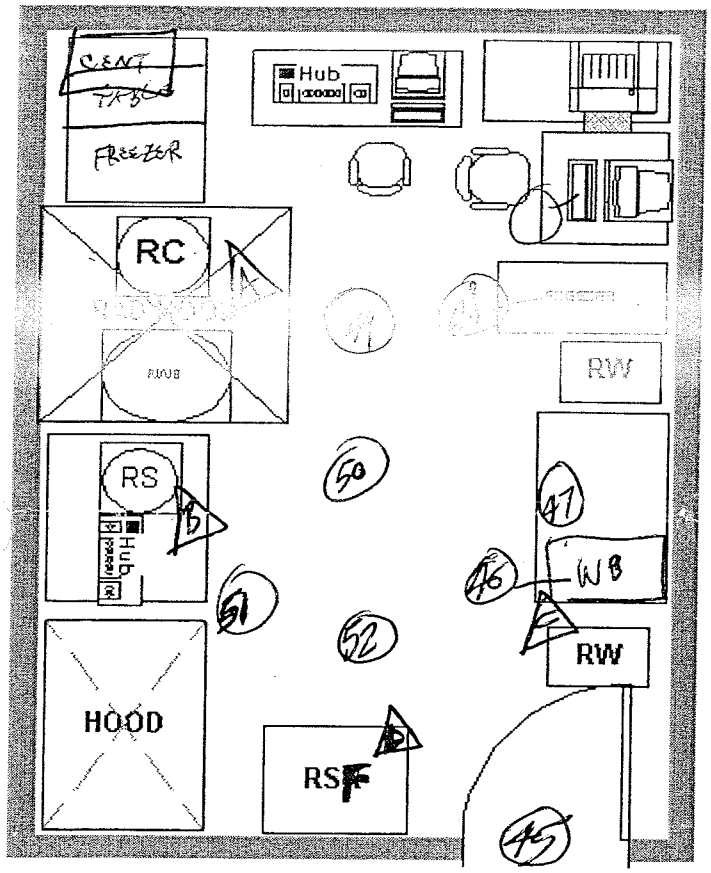
Supervisor: ~~Tretter, R.~~ BURCH **Frequency:** 30 days **Surveyor:** FONTAINE

Lab Phone: (202) 782-5214 **Inspection Date:** 7 JUNE 99

Radio-Nuclides: C-14, Eu-152, H-3, I-125, P-32, P-33, Ra-226, S-35 **Meter Model:** L-3

Meter SN: _____

Cal Due: _____



2-7E10A

Room Checks

	Initials
All RAM removed from the room	BAF
Radioactive waste removed	BAF
All rad. equipment cleared	BAF
All radiation labels removed	BAF
Entrances un-posted	BAF
Survey instrument turned in	BAF
Other _____	
Administrative Checks	
Request for AH or Final complete	BAF
Equip. clearance forms complete	BAF
Room final survey forms complete	BAF

Survey Meter

Model L-3 SN ~~1135~~

Calibration Due 4 SEP 99

A	50	cpm ~~mR/hr~~
B	60	cpm ~~mR/hr~~
C	60	cpm ~~mR/hr~~
D	60	cpm ~~mR/hr~~
E		cpm mR/hr
F		cpm ~~mR/hr~~

Laboratory Analysis

Technician KEN Date 6/8/99

Liquid Scintillation Counter ✓ Gamma Counter

Record any samples > 200 dpm or removable contamination. If > 2000 dpm resurvey within 5 working days.

Swipe	Isotope	dpm	Swipe	Isotope	dpm

Comments: Reused w/ 15/99

Auto Gamma 51-60

LSC

Swipe #'s 45-52

Follow-up Dates

Resurvey

Administrative

Comments

METER MOVING TO 7E60
RW CONTAINERS MOVED TO 7E60

WALTER REED ARMY MEDICAL CENTER
HEALTH PHYSICS OFFICE
6825 SIXTEEN STREET, NORTHWEST • BUILDING 41, ROOM 38 • WASHINGTON, D.C. 20307-5001 • 202-356-0058/59

AUTHORIZATION REVIEW PROCESS

AUTHORIZATION NO.: 511 **DATE:** 6/3/99

RMC BRANCH

	Initials Pending	Complete	Comments
WRAMC Form 538		DWB	NA
WRAMC Form 1643		DWB	NA
Authorization or Amendments		DWB	1. Delete Room 7510A in Bldg 2 2. Add Room 6Z60 in Bldg 2
Protocol		DWB	NA
Isotopes		DWB	NA

OPERATIONS BRANCH

Pre-Room Survey	DWB	DWB	
Admin Hold Survey		AEM	NA
Final Survey	DWB	DWB	
Bioassay Program		AEM	NA
Dosimetry Program		AEM	NA
Instrumentation		AEM	✓

GENERAL COMMENTS

Room 6Z60 in Bldg 2 was on the authorization before it was finaled in 1996.

DEPARTMENT OF THE ARMY
WALTER REED ARMY MEDICAL CENTER
WASHINGTON, DC 20307-5001

REPLY TO
ATTENTION OF:

MCHL-ME 28-Dec-98

TO: Chief, Operations Branch, Health Physics

SUBJECT: Authorization #511/ Room Removal

Please remove the following rooms from the above authorization number, as they are no longer being used for isotope work.

Room 7Z68, 6Z60, 6Z70.

Please address any questions regarding this letter to the undersigned.

Henry B. Burch, M.D.
LTC, Medical Corps, U.S. Army
Assistant Chief, Endocrine-Metabolic Service
Phone (202) 782-6770
FAX (202) 782-0187

This Application is given interim approval until the next meeting of the RCC which is scheduled for: 3/99

FEB 8 1999

WILLIAM B. JOHNSON
COL, MS
CHIEF, HEALTH PHYSICS OFFICE

APPROVED BY
RCC 2/24/99

Armed Forces Institute of Pathology
Division of Forensic Toxicology

AFIP-CME-T

03 August 1998

MEMORANDUM FOR LDCR Kenneth Cole

SUBJECT: Duty Appointment

Effective this date you are appointed as the Primary Radioactivity User, Division of Forensic Toxicology.

MICHAEL L. SMITH, Ph.D., DABFT
COL, MS, USA
Chief Deputy Medical Examiner

This Application is given interim approval until the next meeting of the RCC which is scheduled for: 3/99

JAN 12 1999

WILLIAM B. JOHNSON
COL, MS
CHIEF, HEALTH PHYSICS OFFICE

APPROVED BY RCC

FEB 24 1999

DATE

AUTHORIZATION REVIEW PROCESS

AUTHORIZATION NO.: 369 **DATE:** 8/7/98

RMC BRANCH

	Initials Pending	Complete	Comments
WRAMC Form 538	JRM	JRM	Sent 11/30/98
WRAMC Form 1643	JRM	JRM	Will send Sent 11/30/98
Authorization or Amendments		JRM	Change PI - Commander Kenneth Co
Protocol		JRM	NA
Isotopes		JRM	NA

OPERATIONS BRANCH

Pre-Room Survey		ARM	NA
Admin Hold Survey		ARM	NA
Final Survey		ARM	NA
Bioassay Program		ARM	NA
Dosimetry Program		ARM	1952 Will send Sent 8/11/98
Instrumentation		ARM	NA

GENERAL COMMENTS

10/29/98 Called. He need a copy of the form. I faxed him the form - VOT
11/19/98 Left message

DEPARTMENT OF THE ARMY
WALTER REED ARMY MEDICAL CENTER
WASHINGTON, DC 20307-5001

REPLY TO
ATTENTION OF:

3 Nov 98

To: Dave Burton
Vanessa Cox
Health Physics

From: MAJ R Michael Tuttle, MD

RE: Change in Principal User for Authorization Number 511

Dear Ms Cox,

I am writing to request that the principal user for authorization number 511 be changed from R Michael Tuttle, MD to LTC Henry Burch, MD, Endocrinology Staff, WRAMC effective 3 November 1998.

Since moving my laboratory to the T2 DCI Laboratory facilities, I am no longer in need of radioactivity in the hospital main building. However, Dr Burch continues to maintain research laboratories within Building 2 which requires continued use of radioactivity. Dr Burch has used radioactivity in many previous experiments and is capable and willing to perform all duties associated with the Principal User of #511.

Furthermore, the only personnel that need to be included on this authorization include Dr Burch, Phyllis Rhooms, and Yin-Ying Djuh. All other personnel previously covered under this authorization have been relocated to DCI T2 and are covered under that authorization number.

Sincerely,

R Michael Tuttle, MD

APPROVED BY
RCC FEB 24 1999
DATE

This Application is given interim approval until the next meeting of the RCC which is scheduled for: 3/99

JAN 12 1999

WILLIAM B. JOHNSON
COL, MS
CHIEF, HEALTH PHYSICS OFFICE

AUTHORIZATION REVIEW PROCESS

AUTHORIZATION NO.: 511 **DATE:** 11/03/98

RMC BRANCH

	Initials Pending	Complete	Comments
WRAMC Form 538	DWB	DWB	Burch, Ojah, Rhoomi - Received 11/4/98. 11/23/98
WRAMC Form 1643	DWB	DWB	Burch - Received 12/15/98
Authorization or Amendments		DWB	Change PI - H. Burch
Protocol		DWB	NA
Isotopes		DWB	NA

OPERATIONS BRANCH

Pre-Room Survey		Apm	NA
Admin Hold Survey		Apm	NA
Final Survey		Apm	NA
Bioassay Program		Apm	NA
Dosimetry Program		Apm	1952 Received 12/15/98
Instrumentation		Apm	NA

GENERAL COMMENTS

email for information on 11/9/98.

H. Burch worker's ID: 82.; Training #: 692

DEPARTMENT OF THE ARMY
WALTER REED ARMY MEDICAL CENTER
WASHINGTON, DC 20307-5001

REPLY TO
ATTENTION OF:

3 Nov 98

To: Dave Burton
Vanessa Cox
Health Physics

From: MAJ R Michael Tuttle, MD

RE: Change in Principal User for Authorization Number 511

Dear Ms Cox,

I am writing to request that the principal user for authorization number 511 be changed from R Michael Tuttle, MD to LTC Henry Burch, MD, Endocrinology Staff, WRAMC effective 3 November 1998.

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Furthermore, the only personnel that need to be included on this authorization include Dr Burch, Phyllis Rhooms, and Yin-Ying Djuh. All other personnel previously covered under this authorization have been relocated to DCI T2 and are covered under that authorization number.

Sincerely,

R Michael Tuttle, MD

APPROVED BY
RCC FEB 24 1999
DATE

This Application is given interim approval until the next meeting of the RCC which is scheduled for: 3/99

JAN 12 1999

WILLIAM B. JOHNSON
COL, MS
CHIEF, HEALTH PHYSICS OFFICE

#683

AUTHORIZATION # 511

(8) Medical Surveillance Program: Medical examinations are not routinely needed incident to occupational exposure to ionizing radiation.

(9) Pregnancy Surveillance Program: When a pregnant woman is occupationally exposed to ionizing radiation, the embryo-fetus enters the radiation environment involuntarily. Therefore, the female employee is responsible for advising her employer of the fact that she is pregnant. The employer must notify Health Physics of the pregnancy as soon as possible so the Pregnancy Surveillance Program can be implemented (see Paragraph 3-2b, AR 40-14).

B. All personnel will acknowledge receiving and understanding the above information by signing and dating this form or WRAMC Form 538, Radiation Worker Briefing.

SIGN-IN FOR ANNUAL TRAINING: DATE - 11/4/98

PRINT NAME	SIGNATURE
Anderson, Jeffrey	SIGNATURE
Barnes, Susan	SIGNATURE
Lahiri, Sabita	SIGNATURE
Lukes, Yvonne	SIGNATURE
~~Martin, Jesse~~	SIGNATURE
Nicholson, Diarmuid	SIGNATURE
Rhooms(Kesler), Phyllis	SIGNATURE
Tuttle, Michael R.	SIGNATURE

As Principal Investigator, I have insured that the above named individuals have received a briefing in accordance with 10 CFR Part 19.

Tuttle, Michael(511) SIGNATURE / 4 Nov 98 DATE

** Individuals indicated with an asterisk may work in or frequent my areas where radioisotopes are used or stored, but do not work with radioactive material under my authorization and are not to be added to my radioactive material authorization.*

Revised 1 July 1994

25 NOV 1998

This Application is given interim approval until the next meeting of the RCC which is scheduled for: 11/25

WILLIAM S. JOHNSON
COL, MS
CHIEF, HEALTH PHYSICS OFFICE

APPROVED BY RCC 11/25/98 DATE

AUTHORIZATION REVIEW PROCESS

AUTHORIZATION NO.: 511 **DATE:** 11/16/98

RMC BRANCH

	Initials Pending	Complete	Comments
WRAMC Form 538		JPM	NA
WRAMC Form 1643		JPM	NA
Authorization or Amendments		JPM	Delete J. Martin
Protocol		JPM	NA
Isotopes		JPM	NA

OPERATIONS BRANCH

Pre-Room Survey		APM	NA
Admin Hold Survey		APM	NA
Final Survey		APM	NA
Bioassay Program		APM	NA
Dosimetry Program		APM	Already deleted from DOSIMETRY
Instrumentation		APM	NA

GENERAL COMMENTS

HEALTH PHYSICS RADIOACTIVE PROTOCOL

(TYPE OR PRINT LEGIBLY)

A. GENERAL INFORMATION

AUTHORIZATION NUMBER: 511	DATE OF APPLICATION: 1 JULY
PRINCIPAL INVESTIGATOR'S NAME (*LAST, FIRST, MI*) TUTTLE, R., MICHAEL	ORGANIZATION / ORGANIZATION DIVISION ENDOCRINE SER/.

B. RESEARCH PROJECT

TITLE OF PROJECT: ONCOGENE POINT MUTATIONS IN ENDOCRIN	
BEGINNING DATE: JULY 1997	ENDING DATE: OCT 1999

C. AUTHORIZED USERS

CO-INVESTIGATORS	TRAINEES	STAFF WORKERS
		ANDERSON, JEFFREY

D. ISOTOPE DATA

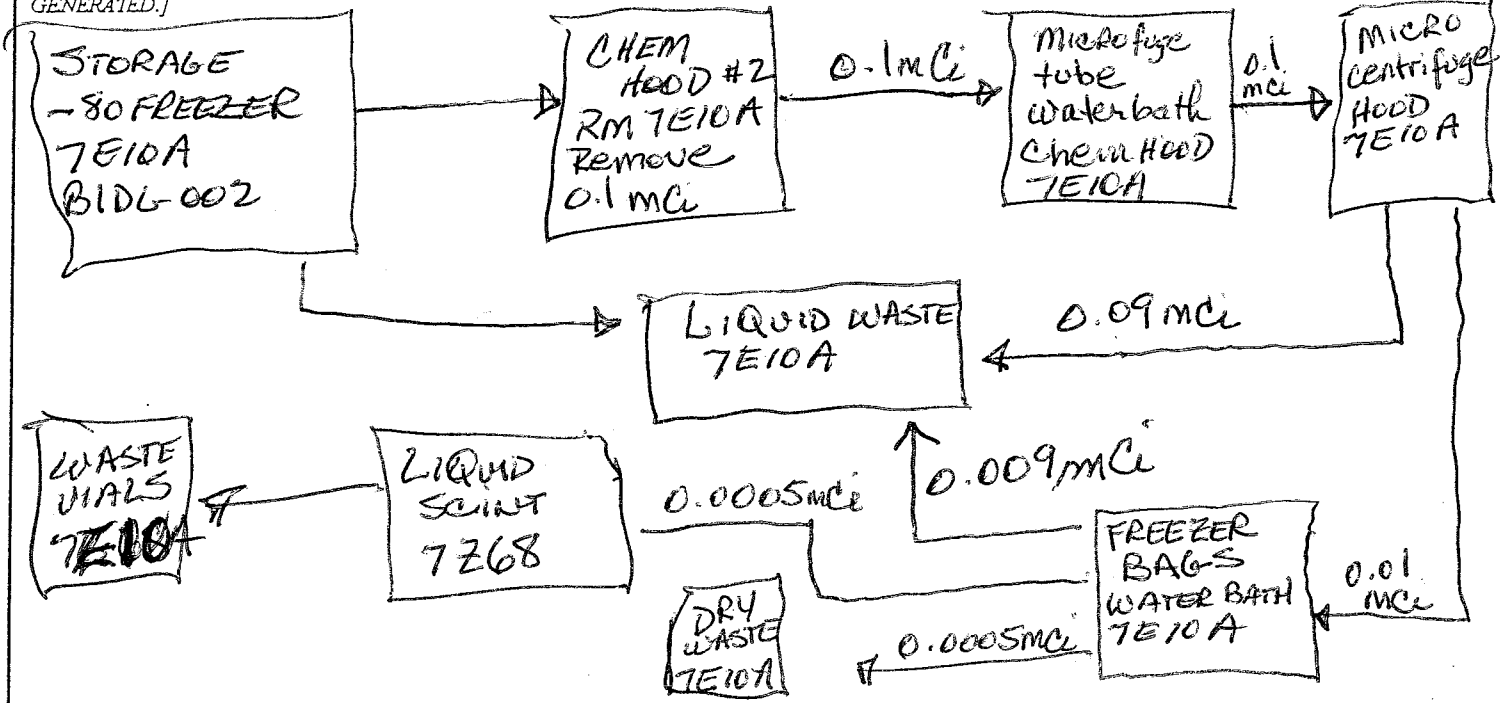
RADIOISOTOPES: 32 P

PHYSICAL / CHEMICAL FORM LIQUID	MAXIMUM QUANTITY PER EXPERIMENT (mCi) 0.1

E. FLOW CHART

LIFE CYCLE OF RADIOISOTOPE UTILIZED FOR THE RESEARCH PROCEDURE

[USE BLOCK/FLOW DIAGRAM TO SHOW WHAT, WHEN, WHERE, HOW MUCH ISOTOPE IS USED FROM RECEIPT TO DISPOSAL; EMPHASIZE MAJOR STEPS (INCUBATED OVERNIGHT, RUN GEL, AUTORADIOGRAPHY, ETC.), INCLUDING THE DIFFERENT TYPES AND VOLUMES OF WASTE GENERATED.]



LABELING AND TRANSPORTING OF RADIOACTIVE MATERIAL: ALL RADIOACTIVE SOLUTIONS, TISSUES, ANIMALS AND WASTE WILL BE IDENTIFIED BY THE PROPER LABELS. TRANSPORTING OF RADIOACTIVE MATERIALS BETWEEN AUTHORIZED WORK AREAS WILL BE CONDUCTED IN A MANNER THAT PRECLUDES THE SPREAD OF CONTAMINATION AND INADVERTENT EXPOSURE OF NON-PARTICIPATING PERSONNEL.

F. LABORATORY ANIMAL USAGE

NAME OF SPECIES:
BUILDING: ROOM:
DISPOSITION FOR ANIMALS:

G. ISOTOPE UTILIZATION LOCATIONS

	(1)	(2)	(3)	(4)
ISOTOPE (S)	32P	32P		
BUILDING	002	002		
ROOM NUMBER	7E10A	7Z68		
MAXIMUM AMOUNT (mCi)	0.1	0.01		

MAXIMUM AMOUNT IN POSSESSION (mCi):

H. STORAGE LOCATIONS

	BLDG. NO.	RM. NO.	MAXIMUM AMT. (mCi)
ISOTOPE STORAGE LOCATION (S)	002	7E10A	1.0
WASTE STORAGE LOCATION (S)	002	7E10A	1.0
ANIMAL/TISSUE STORAGE LOCATION (S)			

I. INFORMATION PERTAINING TO GENERAL PROVISIONS

PERSONNEL DOSIMETRY WILL BE REQUESTED IN ACCORDANCE WITH HEALTH PHYSICS CONDITION NO. 1. ASSIGNED DOSIMETRY MONITORS WILL BE WORN BY ALL PARTICIPATING PERSONNEL.

TYPE (*CHECK ONE*): 1. WHOLE BODY ____ 2. TLD ____ 3. BOTH X

ALL ROOM SURVEYS WILL BE CONDUCTED IN ACCORDANCE WITH HEALTH PHYSICS CONDITION NO. 2. yes

ALL RADIOACTIVE WASTE WILL BE TRANSFERRED TO THE HEALTH PHYSICS OFFICE IN ACCORDANCE WITH HEALTH PHYSICS CONDITION NO. 4. yes

J. PERSONNEL HAZARDS

ARE THERE ANY SIGNIFICANT "NON-RADIATION" PERSONNEL HAZARDS [BIOLOGICAL (HIV/AIDS, ETC.), HAZARDOUS CHEMICALS (TOXIC, EXPLOSIVE, CORROSIVE, ETC.), SHARPS, LASERS, MICROWAVES, ELECTRICAL, ETC.)] ASSOCIATED WITH THE EXPERIMENT THAT MAY EFFECT HEALTH PHYSICS PERSONNEL DURING ROUTINE INSPECTIONS, SURVEYS OR WASTE HANDLING PROCEDURES?

NO

K. VERIFICATION OF PROTOCOL

THE RESEARCH PROTOCOL DESCRIBED ABOVE IS DESIGNED TO ENSURE THAT OCCUPATIONAL RADIATION EXPOSURES AND THE RELEASE OF RADIOACTIVE EFFLUENTS TO THE ENVIRONMENT WILL BE " AS LOW AS REASONABLY ACHIEVABLE (ALARA)" DURING ALL PHASES OF THE RESEARCH PROCEDURES.

SIGNATURE OF PRINCIPAL INVESTIGATOR: R Michael Tuttle

PRINT NAME AND TITLE: R Michael Tuttle, MD

DATE SIGNED: 26 jun 97 RANK / GS GRADE: O-4

TELEPHONE NUMBER: (202) 782-5214

HEALTH PHYSICS RADIOACTIVE PROTOCOL

(TYPE OR PRINT LEGIBLY)

A. GENERAL INFORMATION

AUTHORIZATION NUMBER: 511	DATE OF APPLICATION: 1 JULY 1997
PRINCIPAL INVESTIGATOR'S NAME (*LAST, FIRST, MI*) BURCH, HENRY	ORGANIZATION / ORGANIZATION DIVISION: ENDOCRINE SERVICE / DEPT. MED.

B. RESEARCH PROJECT

TITLE OF PROJECT: GRAVES DISEASE AND OPTHALMYOPATHY	
BEGINNING DATE: 1 JULY 1997	ENDING DATE: JUNE 1999

C. AUTHORIZED USERS

CO-INVESTIGATORS	TRAINEES	STAFF WORKERS
		RHOOMS, Phyllis BARNES, SUSAN

D. ISOTOPE DATA

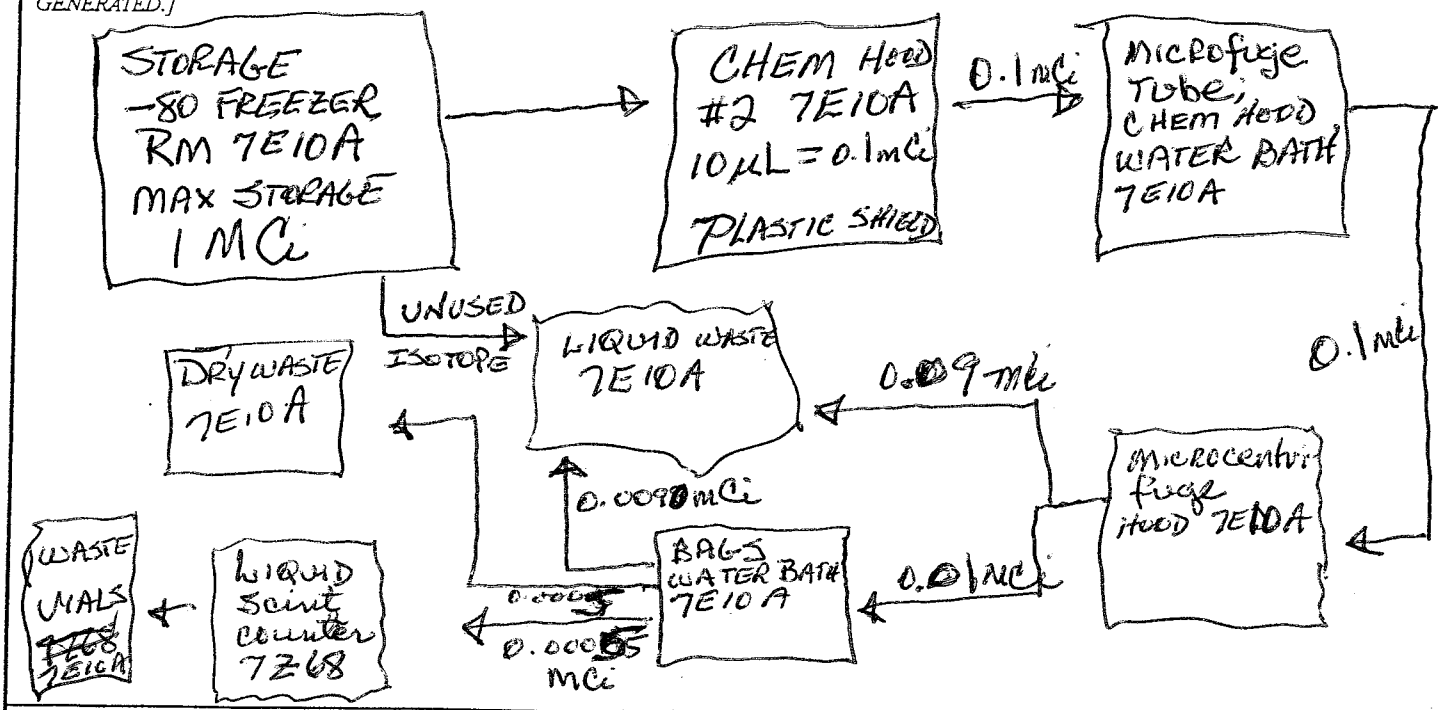
RADIOISOTOPES: 32 P

PHYSICAL / CHEMICAL FORM: LIQUID	MAXIMUM QUANTITY PER EXPERIMENT (mCi): 0.1

E. FLOW CHART

LIFE CYCLE OF RADIOISOTOPE UTILIZED FOR THE RESEARCH PROCEDURE

[USE BLOCK/FLOW DIAGRAM TO SHOW WHAT, WHEN, WHERE, HOW MUCH ISOTOPE IS USED FROM RECEIPT TO DISPOSAL; EMPHASIZE MAJOR STEPS (INCUBATED OVERNIGHT, RUN GEL, AUTORADIOGRAPHY, ETC.), INCLUDING THE DIFFERENT TYPES AND VOLUMES OF WASTE GENERATED.]



LABELING AND TRANSPORTING OF RADIOACTIVE MATERIAL: ALL RADIOACTIVE SOLUTIONS, TISSUES, ANIMALS AND WASTE WILL BE IDENTIFIED BY THE PROPER LABELS. TRANSPORTING OF RADIOACTIVE MATERIALS BETWEEN AUTHORIZED WORK AREAS WILL BE CONDUCTED IN A MANNER THAT PRECLUDES THE SPREAD OF CONTAMINATION AND INADVERTENT EXPOSURE OF NON-PARTICIPATING PERSONNEL.

F. LABORATORY ANIMAL USAGE

NAME OF SPECIES:
BUILDING: ROOM:
DISPOSITION FOR ANIMALS:

G. ISOTOPE UTILIZATION LOCATIONS

	(1)	(2)	(3)	(4)
ISOTOPE (S)	32P	32P		
BUILDING	002	002		
ROOM NUMBER	7E10A	7Z68		
MAXIMUM AMOUNT (mCi)	0.1	0.001		

MAXIMUM AMOUNT IN POSSESSION (mCi):

H. STORAGE LOCATIONS

	BLDG. NO.	RM. NO.	MAXIMUM AMT. (mCi)
ISOTOPE STORAGE LOCATION (S)	002	7E10A	1.0
WASTE STORAGE LOCATION (S)	002	7E10A	1.0
ANIMAL/TISSUE STORAGE LOCATION (S)			

I. INFORMATION PERTAINING TO GENERAL PROVISIONS

PERSONNEL DOSIMETRY WILL BE REQUESTED IN ACCORDANCE WITH HEALTH PHYSICS CONDITION NO. 1. ASSIGNED DOSIMETRY MONITORS WILL BE WORN BY ALL PARTICIPATING PERSONNEL.

TYPE (*CHECK ONE*): 1. WHOLE BODY ____ 2. TLD ____ 3. BOTH X

ALL ROOM SURVEYS WILL BE CONDUCTED IN ACCORDANCE WITH HEALTH PHYSICS CONDITION NO. 2. yes

ALL RADIOACTIVE WASTE WILL BE TRANSFERRED TO THE HEALTH PHYSICS OFFICE IN ACCORDANCE WITH HEALTH PHYSICS CONDITION NO. 4. yes

J. PERSONNEL HAZARDS

ARE THERE ANY SIGNIFICANT "NON-RADIATION" PERSONNEL HAZARDS [BIOLOGICAL (HIV/AIDS, ETC.), HAZARDOUS CHEMICALS (TOXIC, EXPLOSIVE, CORROSIVE, ETC.), SHARPS, LASERS, MICROWAVES, ELECTRICAL, ETC.)] ASSOCIATED WITH THE EXPERIMENT THAT MAY EFFECT HEALTH PHYSICS PERSONNEL DURING ROUTINE INSPECTIONS, SURVEYS OR WASTE HANDLING PROCEDURES?

NO

K. VERIFICATION OF PROTOCOL

THE RESEARCH PROTOCOL DESCRIBED ABOVE IS DESIGNED TO ENSURE THAT OCCUPATIONAL RADIATION EXPOSURES AND THE RELEASE OF RADIOACTIVE EFFLUENTS TO THE ENVIRONMENT WILL BE " AS LOW AS REASONABLY ACHIEVABLE (ALARA)" DURING ALL PHASES OF THE RESEARCH PROCEDURES.

SIGNATURE OF PRINCIPAL INVESTIGATOR: R Michael Tuttle

PRINT NAME AND TITLE: R. M. Tuttle, MD

DATE SIGNED: 26 Jan 97 RANK / GS GRADE: O-4

TELEPHONE NUMBER: (202) 782-5214

APPROVED BY RCC SEP 16 1994 DATE

APPLICATION FOR AUTHORIZATION TO USE RADIOACTIVE MATERIAL -- NON-HUMAN USE

1. APPLICATION FOR: [ ] NEW AUTHORIZATION [X] RENEWAL OF AUTHORIZATION NUMBER 511 [ ] AMENDMENT TO AUTHORIZATION NUMBER

2. APPLICANT'S NAME *(Last, First, MI) (Principal User)* Tuttle, RM

~~NICHOLSON, Diarmuid E. Ph.D.~~

TELEPHONE NUMBER

(202)576-~~2171~~ 5214

3. APPLICANT'S MAILING ADDRESS *(Include Organization)*

Kyle Metablic Unit Lab
Dept. Clinical Invest.
WRAMC

(IF MORE SPACE IS NEEDED FOR ANY ITEM, USE ADDITIONAL PROPERLY KEYED PAGES.)

4. *List all* CO-WORKERS

~~BURCH, Henry~~
~~BURMAN, Kenneth~~
~~DUNCAN, William~~
~~CLEMENT, Stephen~~
REED, Lester
Nicholson, D.

5. *List all* TRAINEES

~~ATWA, Mohamad~~
~~KIANG, Juliann~~
~~LASWELL, William~~
~~FRANCIS, Thomas~~
~~RUI, Lu~~
~~RINGEL, Matthew~~

6. *List all* TECHNICIANS

ANDERSON, Jeffrey
~~JENKINS, Elmer~~
~~BAPTISTE, Victor~~
BARNES, Susan
LUKES, Yvonne
MARTIN, Jesse
~~FISHER, Carolyn~~
LAHIRI, Sabita

7. LOCATIONS WHERE MATERIAL WILL BE USED: *(Building and Associated Rooms)*

Bldg. 2, Rms. ~~4742~~, ~~4744~~, ~~4746~~, ~~4748~~, ~~4747~~, ~~4743~~, ~~4750C~~, ~~4751~~, ~~4760~~, ~~6Z70~~, ~~6Z63~~ 7Z68 7E-10A

8. LOCATIONS WHERE MATERIAL WILL BE STORED: *(Building and Associated Rooms)*

Bldg. 2 Rms. ~~4748~~ and ~~4751~~

9. RADIOACTIVE WASTE DISPOSAL SINK IN ROOM:

Bldg. 2 Rm ~~4743~~

10. RADIOACTIVE MATERIAL DATA

A. RADIOSOTOPE	B. CHEMICAL AND/OR PHYSICAL FORM *(Sealed or Unsealed)*	C. POSSESSION LIMIT	D. USE
S-35	Unsealed/nucleotide/liquid	3.0E+01mCi	in vitro labelling of nucleic acids
P-33	Unsealed/nucleotide/liquid	2.0E+01mCi	in vitro labelling of nucleic acids
P-32	Unsealed/nucleotice/liquid	4.0E+01mCi	in vitro labelling of nucleic acids and proteins
C-14	Unsealed/steriod/liquid	3.0E+01mCi	in vitro labelling of cell cultures
H-3	Unsealed/steriod/liquid	8.0E+01mCi	in vitro labelling of cell cultures
I-125	Unsealed/antibody,ligand/ liquid and solid	2.3E+01mCi	RIA, in vitro labelling of cell cultures
Eu-152	Sealed	4.0E-02mCi	LSC Sources
Ra-226	Sealed	1.0E-02mCi	LSC Sources
~~I-131~~	~~Unsealed/antibody/liquid~~	~~1.0E+00mCi~~	~~RIA, medical~~
~~In-111~~	~~Unsealed~~	~~1.0E+00mCi~~	~~Medical cell research~~
~~Rb-86~~	~~Unsealed/rubidium/liquid~~	~~5.0E+00mCi~~	~~Cell labelling~~
~~Cr-51~~	~~Unsealed/Na Chromate/liquid~~	~~3.0E+01mCi~~	~~Cell labelling~~

CERTIFICATE

(This item must be completed by applicant)

I certify that this application is prepared in conformity with WRAMC Regulations and that all information contained herein, including any supplements attached hereto, is true and correct to the best of my knowledge and belief.

11. I ACKNOWLEDGE MY RESPONSIBILITIES AS *PRINCIPAL USER* AS DEFINED

12. ADMINISTRATIVE APPROVAL:

MEMO TO: HEALTH PHYSICS
MR. DAVID BURTON
SUBJ: AUTHORIZATION 511
DATE: May 15, 1994

Please delete the following people as workers under authorization #511. These people do not anticipate using any isotopes during this year and they do not frequent the vicinity of any controlled area.

Glass, Allan
Djuh, Yin-Ying
Carr, Frances
Feng, Jian-Yu
Rhooms(Kesler), Phyllis
Peters, Melissa
Wartofsky, Leonard

D. E. Nicholson

Diarmuid E. Nicholson, PhD.
Kyle Metabolic Unit Research Laboratories
Department of Clinical Investigation

MEMO TO: HEALTH PHYSICS
MR. DAVID BURTON
SUBJ: AUTHORIZATION 511
DATE: May 15, 1994

Please add the following people as workers under authorization #511.

Dr. Lester Reed. Dr. Reed is a Ltc(P) permanent staff member of the Endocrine Clinic, Dept. of Medicine, WRAMC. He has an approved protocol from the Dept. of Clinical Investigation that involves the use of C-14 chloramphenicol. He has extensive research experience at the Naval Medical Center, Bethesda.

Dr. Matthew Ringel is a medical resident at Georgetown University Medical Center and is a co-investigator with Dr. Ken Burman of the Endocrine Clinic, Dept of Medicine, WRAMC. He will spend two months in the Kyle Metabolic Unit Laboratory.

They have completed experience forms and those are included with this memorandum.

D E Nicholson

Diarmuid E. Nicholson, PhD.
Kyle Metabolic Unit Research Laboratories
Department of Clinical Investigation

MEMO TO: HEALTH PHYSICS
MR. DAVID BURTON
SUBJ: AUTHORIZATION 511
DATE: May 15, 1994

Please add the following rooms as controlled areas under authorization #511. Bldg. 2, Rm 4750C; Bldg. 2, Rm 4744; and Bldg. 2, Rm 4751. Rm 4750C was formerly the kitchen of the Kyle Metabolic Unit and was given to the KMU Laboratory to use as research space. This room has freezers which might be used to store samples that have been labeled with radioisotopes. Rm. 4744 previously was designated as an aliquot room but is presently used for research work and should be monitored by us for any possible isotope contamination.

Rm. 4751 is a supply room which has a -70°C freezer. I would like to designate this freezer as a storage freezer for isotope. This room is isolated and secure and the freezer is also secure.

We will maintain survey logs for each of these rooms and monitor their use to determine whether they might be designated as low use rooms if and when the rules for surveys changes.

D. E. Nicholson

Diarmuid E. Nicholson, PhD.
Kyle Metabolic Unit Research Laboratories
Department of Clinical Investigation

MEMO TO: HEALTH PHYSICS
MR. DAVID BURTON
SUBJ: AUTHORIZATION 511
DATE: June 16, 1994

1) Please amend the application for authorization to use radioactive material, authorization #511.

2) The following location should be removed from authorization #511.

Location	Building	Room
2_6Z60	2	6Z60

This room will not be used for any radioactive experiments and there will not be any storage of radioactive materials in this room.

D. E. Nicholson Principal User

Diarmuid E. Nicholson, PhD.
Kyle Metabolic Unit Research Laboratories
Department of Clinical Investigation

MEMO TO: HEALTH PHYSICS
MR. DAVID BURTON
SUBJ: AUTHORIZATION 511
DATE: June 16, 1994

1) Please amend the application for authorization to use radioactive material, authorization #511.

2) The following radionuclides which were listed in the application should be deleted from the application. There are no research protocols which would use these radionuclides.

Radionuclide	Max Pos. Act.	Chem/Phys Form
I-131	1.0E+00mCi	unsealed
In-111	1.0E+00mCi	unsealed
Rb-86	5.0E+00mCi	unsealed
Cr-51	3.0E+01mCi	unsealed

3) The following location should be added to the application.

Location	Building	Room
2_6Z68	2	6Z68

This room contains a Gamma counter and a scintillation counter with a sealed source. It is used to count samples from location 2_6Z70.

D. E. Nicholson Principal user

Diarmuid E. Nicholson, PhD.
Kyle Metabolic Unit Research Laboratories
Department of Clinical Investigation

DATE: 14 June 94

Authorization Review Process
Branch Input

Auth # 511

	A	B	COMMENTS
1	X	DMB	
2	~~X~~	DMB	I-131, In-111, Rb-86, Cr-51; called 16 June delete
3	X	DMB	
4	~~X~~	LMS	4750C, 4744, 4751
5	~~X~~	LMS	Bldg 7 : 640; Bldg 2 : 1260, ~~1265~~
6	NA	LMS	
7	X	DMB	
8	X	DMB	signature needed for Dr. Ringel (trainee)
9	NA	DMB	
10	NA	DMB	
11	NA	DMB	
12			
13			
14			
15			

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(3) - Isotopes (within limits for NRC License/personnel qualifications)
(4) - OPS Branch room pre-survey
(5) - OPS Branch room final survey
(6) - TS Branch instrumentation assignment
(7) - Training - WRAMC Form 538 (Completed by users annually)
(8) - Training - WRAMC Form 1643 (Training and Experience Form)
(9) - Fort Detrick - Auth#'s 541, 618, 619, 620, 621
(10) - TS Branch Bioassay
(11) - TS Branch Personnel dosimetry

(A) - (X) when complete, (0) when pending, and ( ) when pending completed
(B) - Initial of branch representative when complete or pending issues are resolved
(C) - Comments

10 Sept 96

Memorandum for: Mr. David Burton, Health Physics Office

From: Principal User Authorization #511, R. Michael Tuttle, MAJ, MC

Subject: Removal of Rooms from Authorization

Please make a final survey so that rooms 6Z60 and 6Z68 (Building 2, WRAMC) may be removed from Authorization #511. These rooms have not been used for radiation related studies in many years, but need final clearance before they can be removed from the authorization.

R Michael Tuttle, MAJ, MD
Principal User Authorization #511
10 Sept 96

APPROVED BY
RCC 21 Nov 1996
DATE

This Application is given interim approval until the next meeting of the RCC which is scheduled for: Nov. 96

19 SEP 1996
WILLIAM B. JOHNSON
COL, MS
CHIEF, HEALTH PHYSICS OFFICE

AUTHORIZATION REVIEW PROCESS

AUTHORIZATION: 511 DATE: 9/10/96

RMC BRANCH

	Initials Pending	Initials Complete	Comments
WRAMC Form 538		JPMB	NA
WRAMC Form 1643		JPMB	NA
Authorization or Amendments		JPMB	Delete Room 6Z68 ~~15C~~ 2 ; 260 hold
Protocol		JPMB	NA
Isotopes		JPMB	NA

OPERATIONS BRANCH

Pre-room Survey	NA	ARM	
Admin Hold Survey	NA	ARM	
Final Survey		ARM	
Bioassay Program	NA	ARM	
Dosimetry Program	PA	ARM	
Instrumentation		ARM	

Rm 6Z60 had been cleaned some years Ago. The sign is still on the outside because the sign department are the only one to take the sign down and they were never inform apparently.

DEPARTMENT OF THE ARMY
WALTER REED ARMY MEDICAL CENTER
WASHINGTON, DC 20307-5001

REPLY TO
ATTENTION OF:

18 Sept 96

Memorandum For: Mr. David Burton, Health Physics Office

From: Principal User Authorization #511, R. Michael Tuttle, MD, MAJ, MC

Subject: Addition of room to Authorization

Please inspect room 7Z68, WRAMC, Building 2 so that it can be added to Authorization #511. This room will be used for research related activities approved by Department of Clinical Investigation, WRAMC.

R Michael Tuttle, MD
Principal User Authorization #511
18 Sept 96

This Application is given interim approval until the next meeting of the RCC which is scheduled for: Nov 96

19 SEP 1996

WILLIAM B. JOHNSON
COL, MS
CHIEF, HEALTH PHYSICS OFFICE

APPROVED BY
RCC
21 NOV 1996
DATE

AUTHORIZATION REVIEW PROCESS

AUTHORIZATION: 511 DATE: 9/18/96

RMC BRANCH

	Initials Pending	Initials Complete	Comments
WRAMC Form 538		DMB	NA
WRAMC Form 1643		DMB	NA
Authorization or Amendments		DMB	Add Rx 7268
Protocol		DMB	NA
Isotopes		DMB	NA

OPERATIONS BRANCH

Pre-room Survey		ARM	
Admin Hold Survey		ARM	NA
Final Survey		ARM	NA
Bioassay Program		ARM	NA
Dosimetry Program		ARM	NA
Instrumentation		ARM	

30MAY96

Memorandum for : Mr. David Burton, Health Physics Office

From: Principal User Authorization #511, R. Michael Tuttle, MAJ. MC

Subject: Removal of Rooms from Authorization

The Fourth Floor laboratory of the Department of Clinical Investigation has been allocated to another department and will not be used by any radiation workers listed under Authorization #511. Please make a final survey so that the rooms might be removed from Authorization #511.

Rooms: 4742
4743
4744
4746
4748
4750C1
4747
4760
4751

R. Michael Tuttle, MAJ. MC
Principal User Authorization #511
30MAY96

APPROVED BY
RCC 29 AUG 1996
DATE

10 JUN 1996
This Application is given interim approval until the next meeting of the RCC which is scheduled for: Aug 96

WILLIAM B. JOHNSON
COL, MS
CHIEF, HEALTH PHYSICS OFFICE

DATE: May 30, 1996

Authorization Review Process
Branch Input

Auth # 511

	A	B	COMMENTS
1	X	DMB	Removal of Rooms from authorization
2	NA	DMB	
3	NA	DMB	
4	NA	TS	
5	X	PD	
6	NA	PJ	
7	NA	DMB	
8	NA	DMB	
9	NA	DMB	
10	NA	PJ	
11	NA	PJ	
12			
13			
14			
15			

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(10) - TS Branch Bioassay
(11) - TS Branch Personnel dosimetry

(A) - (X) when complete, (0) when pending, and ( ) when pending completed
(B) - Initial of branch representative when complete or pending issues are resolved
(C) - Comments

30MAY96

Memorandum for : Mr. David Burton, Health Physics Office

From: Principal User Authorization #511, R. Michael Tuttle, MAJ. MC

Subject: Addition of Rm.7E10A Bldg. 2 to Authorization #511

The fourth floor laboratories previously used by radiation workers listed under Authorization #511 are no longer available to these researchers. Please list Rm. 7E10A, Bldg. 2 (Heaton Pavillion) as a room where work on approved protocols using authorizied radioisotopes may be carried out.

R. Michael Tuttle, MAJ. MC
Principal User Authorization #511
30MAY96

APPROVED BY
RCC 29 AUG 1996
DATE

10 JUN 1996

This Application is given interim approval until the next meeting of the RCC which is scheduled for: Aug 96

WILLIAM B. JOHNSON
COL, MS
CHIEF, HEALTH PHYSICS OFFICE

TO: HEALTH PHYSIC
MR. BURTON
CPT. MORTON
SSG MILLER

REQUEST ACTIVATION OF ROOM 7E10A, AND DEACTIVATION OF ROOM 4743, BUILDING 2 MAIN HOSPITAL.

AUTHORIZATION NO 511
ENDOCRINE-METABOLIC SERVICE
DR. MICHAEL TUTTLE
#782-5214

DATE: May 29, 1996

Authorization Review Process
Branch Input

Auth # 511

	A	B	COMMENTS
1	X	DMB	Activate Room & Deactive Room
2	NA	DMB	
3	NA	DMB	
4	X	[illegible]	
5	NA	[illegible]	
6	NA	[illegible]	
7	NA	DMB	
8	NA	DMB	
9	NA	DMB	
10	NA	[illegible]	
11	NA	[illegible]	
12			
13			
14			
15			

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AUTHORIZATION # 511

(8) Medical Surveillance Program: Medical examinations are not routinely needed incident to occupational exposure to ionizing radiation.

(9) Pregnancy Surveillance Program: When a pregnant woman is occupationally exposed to ionizing radiation, the embryo-fetus enters the radiation environment involuntarily. Therefore, the female employee is responsible for advising her employer of the fact that she is pregnant. The employer must notify Health Physics of the pregnancy as soon as possible so the Pregnancy Surveillance Program can be implemented (see Paragraph 3-2b, AR 40-14).

B. All personnel will acknowledge receiving and understanding the above information by signing and dating this form or WRAMC Form 538, Radiation Worker Briefing.

SIGN-IN FOR ANNUAL TRAINING: DATE - 29 May 96

Anderson, Jeffrey	Jeffrey S. Anderson
Barnes, Susan	Susan Barnes
*Burch, Henry	
*Clement, Stephen	
*Duncan, William	
**Fisher, Carolyn	
*Francis, Thomas	
*Jenkins, Elmer	
Lahiri, Sabita	Sabita Lahiri
**Lu, Rui	
Lukes, Yvonne	Yvonne D. Lukes
Martin, Jesse	Jesse Martin
Nicholson, Diarmuid	D E Nicholson
Rhooms(Kesler), Phyllis	Phyllis Rhooms
Tuttle, Michael R.	R Michael Tuttle

As Principal User, I have insured that the above named individuals have received a briefing in accordance with 10 CFR Part 19.

Tuttle, Michael R. (511) ---------- DATE

R Michael Tuttle 29 May 96
SIGNATURE / DATE

* *Individuals indicated with an asterisk may work in or frequent my areas where radioisotopes are used or stored, but <u>do not</u> work with radioactive material under my authorization, and <u>are not</u> to be added to my radioactive material authorization.*

Revised 1 July 1994

** Does not work at WRAMC as of 1 Feb 96

** Does not work at WRAMC; only at WRAIR as of 1 MAY 96

APPROVED 29 AUG 1996

10 JUN 1996

WILLIAM B. JOHNSON
COL, MS
CHIEF, HEALTH PHYSICS OFFICE

This Application is given interim approval until the next meeting of the RCC which is scheduled for: Aug 96

DATE: May 30, 1996

Authorization Review Process
Branch Input

Auth # 511

	A	B	COMMENTS
1	X	DPMB	Deletion of Workers
2	NA	DPMB	
3	NA	DPMB	
4	NA	PD	
5	NA	TJ	
6	NA	TJ	
7	NA	DPMB	
8	NA	DPMB	
9	NA	DPMB	
10	NA	PJ	
11	X	TJ	
12			
13			
14			
15			

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(A) - (X) when complete, (0) when pending, and ( ) when pending completed
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(C) - Comments

WRAMC
Audit of Radioacative Material
(In accordance with AR 40-37 & 40-61)

Inspector: Vanessa Coll Date: May 15, 1996 Auth#: 511

1. Inventory Control Officer: MR. Jesse Martin
   Bldg and room number: 2 Room: 4742

2. Liquid Scintillator Counter (Source No. & Location): 152-Eu-1 Rm: 4743
   152-Eu-2 Rm: 4743

Compliance Items	YES	NO	N/A
3. Signs and labels in place	X		
4. Inventory log (DA FORM 3862)	X		
5. Inventory within authorized limits	X		
6. WRAMC Authorization on hand	X		
7. WRAMC Regulation 40-10	X		
8. WRAMC General Provisions - Terms & Conditions	X		
9. WRAMC Form 538 - current	X		
10. Wash Sink with log book	X		

11. Personnel Changes (Additions or Deletions): Delete Rui Lu

APPROVED BY
RCC 30 MAY 1996
DATE

12. General Comments:

Principal User/ Authorized User: Robert M. Tuttle
Please Print Name

Robert Tuttle 15May96
Signature / Date

This Application is given interim approval until the next meeting of the RCC which is scheduled for: May 30, 1996

21 MAY 1996

William B. Johnson
WILLIAM B. JOHNSON
COL, MS
CHIEF, HEALTH PHYSICS OFFICE

DATE: May 15, 1996

Authorization Review Process
Branch Input

Auth # 511

	A	B	COMMENTS
1	X	JPMB	Delete Worker
2	NA	JPMB	
3	NA	JPMB	
4	NA	JPMB	
5			
6			
7	NA	JPMB	
8	NA	JPMB	
9	NA	JPMB	
10	NA	JPM	
11	X	JPMB	
12			
13			
14			
15			

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(A) - (X) when complete, (0) when pending, and ( ) when pending completed
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(C) - Comments

October 31, 1995

Memorandum for : Chief, Health Physics Office, William B. Johnson, COL, MS

From: Principal User Authorization #511, Diarmuid E. Nicholson, Ph.D.

Subject: Change in the Principal User for Authorization #511

Due to a reorganization of personnel in the Department of Clinical Investigation, I will be assigned to work in Bldg. 7 at WRAMC. To facilitate regulatory oversight for the use of radioisotopes in Bldg. 2 at WRAMC, I request that R. M. Tuttle, MAJ, MC be appointed Principal User for Authorization #511. I further request that this change in Princial User be made on November 1, 1995 or as soon as possible after that date. Maj. Tuttle has agreed to accept the responsibilities of the Principal User.

D. E. Nicholson

Diarmuid E. Nicholson, Ph.D.
Principal User Authorization #511
October 31, 1955

This Application is given interim approval until the next meeting of the RCC which is scheduled for Dec 95

06 DEC 1995

WILLIAM B. JOHNSON
COL, MS
CHIEF, HEALTH PHYSICS OFFICE

APPROVED BY

RCC 07 DEC 1995

DATE

DEPARTMENT OF THE ARMY
WALTER REED ARMY MEDICAL CENTER
WASHINGTON, DC 20307-5001

REPLY TO
ATTENTION OF:

20 Sept 1995

To: Dave Burton

From: MAJ R Michael Tuttle, MD

RE: Change in Principal User For Authorization Number 511

Dear Mr. Burton,

I am writing you to request that the principal user for authorization number 511 be changed from D Nicholson to R Michael Tuttle, MD, Endocrinology Staff, WRAMC with an effective date of 1 Nov. 95. I familiar with the regulations, handling, and safety of radioisotopes from prior research at Madigan Army Medical Center, Tacoma, WA. I am willing to perform all duties associated with being a Principal User under authorization 511.

In view of the relocation of the 4th floor laboratories and my continued need to use radioisotopes in several research projects, both Dr Nicholson and I agree that this change in principal user would be in the best interest of the research labs that will continue to be located on the 6th and 7th floor of building 2.

Thank you for your attention to this matter.

Sincerely,

R Michael Tuttle

R Michael Tuttle, MD
Endocrinology Staff
782-5214

cc: D. Nicholson

DATE: 21 Sept 95

Authorization Review Process
Branch Input

Auth # 511

	A	B	COMMENTS
1	X	JMB	Change Authorized USER / Called D. Nicholson about letter from him
2	N/A	JMB	
3	N/A	JMB	
4	N/A	JMB	
5			
6			
7	~~N/A~~	JMB	Train card from Nicholson. 21 Sept
8	(X)	JMB	Missing training and experience form - information is attached
9	N/A	JMB	
10	N/A	JMB	
11			
12			
13			
14			
15			

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(11) - TS Branch Personnel dosimetry

(A) - (X) when complete, (0) when pending, and ( ) when pending completed
(B) - Initial of branch representative when complete or pending issues are resolved
(C) - Comments

6OCT95

The following people do not work with radioisotopes under my authorization or have left Walter Reed Army Medical Center. They should be removed from authorization #511.

Atwa, Mohamad
Baptiste, Victor
Burman, Kenneth
Kiang, Juliann
Reed, Harrel
[redacted] BEM

Signed: [signature] 6oct95
Diarmuid Nicholson
Principal User Auth# 511

APPROVED BY
RCC
07 DEC 1995
DATE

This Application is given interim approval until the next meeting of the RCC which is scheduled for: Nov 95

25 OCT 1995

[signature]
WILLIAM B. JOHNSON
COL, MS
CHIEF, HEALTH PHYSICS OFFICE

ATTN VANESSA COX

DATE: 6 Oct 95

Authorization Review Process
Branch Input

Auth # 511

	A	B	COMMENTS
1	X	2PMB	Collection of technicians
2	N/A	2PMB	
3	N/A	2PMB	
4			
5	N/A	PMB	
6			
7	N/A	2PMB	
8	N/A	2PMB	
9	N/A	2PMB	
10	N/A	2NP	
11	X	2NP	
12			
13			
14			
15			

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(5) - OPS Branch room final survey
(6) - TS Branch instrumentation assignment
(7) - Training - WRAMC Form 538 (Completed by users annually)
(8) - Training - WRAMC Form 1643 (Training and Experience Form)
(9) - Fort Detrick - Auth#'s 541, 618, 619, 620, 621
(10) - TS Branch Bioassay
(11) - TS Branch Personnel dosimetry

(A) - (X) when complete, (0) when pending, and ( ) when pending completed
(B) - Initial of branch representative when complete or pending issues are resolved
(C) - Comments

WRAMC
Audit of Radioactive Material
(In accordance with AR 40-37 & 40-61)

Inspector: C. Collins Date: 1 NOV 94 Auth# 511

1. DA form 3862 [NO] [YES]
2. Within limits [NO] [YES]
3. Inventory Control Officer: Mr. Jesse Martin
   Room: BLDG 2 RM 4730
4. WRAMC Regulation 40-10 [NO] [YES]
5. WRAMC Authorization on hand [NO] [YES]
6. General Provisions - Terms & Conditions [NO] [YES]
7. LSC - Source No. & Location: RM 4743 152-Eu-1, 152-Eu-2
8. WRAMC form 538 - current [NO] [YES]
9. Sink log [NO] [YES]
10. Signs & Labels: OK
11. Personnel [Additions] [Deletions]
    William Laswell, Matthew Ringel
12. General Comments:

APPROVED BY
RCC DEC 0 8 1994

Principal User: Mr. J. Martin Authorized Representative:
DATE

11/1/94 Jesse L. Martin
Signature Date

Verified with Dr. Nicholson 16 Nov D. Brooks

William B. Johnson
WILLIAM B. JOHNSON
COL, MS
CHIEF, HEALTH PHYSICS OFFICE

DATE: 1 NOV 94

Authorization Review Process
Branch Input

Auth # 511

	A	B	COMMENTS
1	X	DWB	Verify with P.M. OK 16 Nov
2	NA	DWB	
3	NA	DWB	
4	"	lm	
5	"	lm	
6	"	lm	
7	NA	DWB	
8	NA	DWB	
9	NA	DWB	
10	NA	GJP	
11	Y	GJP	
12			
13			
14			
15			

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(C) - Comments

WRAMC
Audit of Radioactive Material
(In accordance with AR 40-37 & 40-61)

Inspector: C. Collins Date: 10 MAY 94 Auth# 511

1. DA form 3862 [NO] (YES)
2. Within limits [NO] (YES)
3. Inventory Control Officer: Mr. Jesse Martin
   Room: BLDG 2 RM 4730
4. WRAMC Regulation 40-10 [NO] (YES)
5. WRAMC Authorization on hand [NO] (YES)
6. General Provisions - Terms & Conditions [NO] (YES)
7. LSC - Source No. & Location: RM 4743 152-Eu-002
   152-Eu-001
8. WRAMC form 538 - current [NO] [YES] RM 6260 226-Ra-093
9. Sink log [NO] (YES)
10. Signs & Labels: OK
11. Personnel [Additions] (Deletions)
    Melissa Loughney (Peters), Jian-Yu Feng, COL Leonard Wartofsky
12. General Comments:
    (verified with Dr. Nicholson) DMB

Principal User: Mr. J. Martin (Authorized Representative:)
Jesse L Martin 5/10/94
Signature Date

APPROVED BY
RCC
SEP 16 1994
DATE

William B. Johnson
WILLIAM B. JOHNSON
LTC, MS
CHIEF, HEALTH PHYSICS OFFICE

MAY 19 1994
This Application is given interim approval until the next meeting of the RCC which is scheduled for: AUG 94

DATE: 10 MAY 94

Authorization Review Process
Branch Input

Auth # 511

	A	B	COMMENTS
1	X	DRB	check with P.H. ok
2	NA	DRB	
3	NA	DRB	
4	NA	DR	
5	NA	DR	
6	NA	DR	
7	NA	DRB	
8	NA	DRB	
9	NA	DRB	
10	X	LCS	
11	X	LCS	
12			
13			
14			
15			

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(C) - Comments

APPROVED BY RCC

APPLICATION FOR AUTHORIZATION TO USE RADIOACTIVE MATERIAL -- NON-HUMAN USE

1. APPLICATION FOR: AUG 2 9 1991 DATE

NEW AUTHORIZATION	X RENEWAL OF AUTHORIZATION NUMBER	AMENDMENT TO AUTHORIZATION NUMBER
	511	

2. APPLICANT'S NAME (Last, First, MI) (Principal User)	3. APPLICANT'S MAILING ADDRESS (Include Organization)
~~CARR, FRANCES E PhD~~ TELEPHONE NUMBER 576-1419 Nicholson, Diarmald	Kyle Metabolic Unit, [illegible] Bldg 4747 Dept. Clinical Investigation WRAMC

(IF MORE SPACE IS NEEDED FOR ANY ITEM, USE ADDITIONAL PROPERLY KEYED PAGES.)

4. List all CO-WORKERS	5. List all TRAINEES	6. List all TECHNICIANS
Burman, Kenneth COL Duncan, William Lt Col ~~Bhatta, Sudershan Dr.~~ Burch, Henry MAJ Carr, Frances E. PhD Clement, Stephen Loughney ~~(Peters), Melissa Dr~~ Atwa, Mohamed Dr.	~~Feng, Jiang Yu Dr.~~ Francis, Thomas CPT ~~Baptiste, Vic~~ Kiang, Juliann Dr. Glass, Allen COL Rui, Lu Laswell, William MAJ.	[illegible] Baptiste, Victor SGT [illegible] Martin, Jesse ~~[illegible]~~ Dsuk, Yin Yna ~~Burch, Henry~~ ~~Francis, Thomas~~ [illegible] Rhooms, Phyllis Lukes, Yvonne Jenkens, Elmer ~~[illegible]~~ ~~[illegible]~~ ~~[illegible]~~ Fisher (Cuasition) Carolyn ~~[illegible]~~

7. LOCATIONS WHERE MATERIAL WILL BE USED: (Building and Associated Rooms)

4742, 4743, 4746, 4748, 4760, ~~[illegible]~~ 4747, 6Z68, 6Z70

8. LOCATIONS WHERE MATERIAL WILL BE STORED: (Building and Associated Rooms)

{4747} ~~or Auth 615~~ 6Z60, 6Z70 Bldg 7, 640

9. RADIOACTIVE WASTE DISPOSAL SINK IN ROOM:

4743 ~~4748~~

10. RADIOACTIVE MATERIAL DATA

A. RADIOSOTOPE	B. CHEMICAL AND/OR PHYSICAL FORM (Sealed or Unsealed)	C. POSSESSION LIMIT	D. USE
32P	UNSEALED dATP (gamma + alpha), dCTP (alpha)	40 ~~20~~ mCi	LABEL DNA, RNA SEQUENCE DNA, RNA
51Cr	unsealed Na Chromate	30 mCi	in vitro studies
14C	CHLORAMPHENICOL (UNSEALED)	30 ~~15~~ mCi	IN VITRO ENZYME ASSAY
131I	unsealed (Labeled Thyroid)	1 mCi	" " studies
35S	METHIONINE, dATP (ALPHA)	30 mCi	SEQUENCING, LABEL PROTEINS
111In	unsealed	1 mCi	IN VITRO TRANSLATION
125I	STEROIDS, PROTEIN/PEPTIDES	23 ~~10~~ mCi	IN VITRO ASSAYS
86Rb	unsealed	5 mCi	
3H	THYMIDINE	80 ~~20~~ mCi	CELL PROLIFERATION
33P	unsealed	20 mCi	Label DNA, RNA, sequence DNA, RNA
Eu-152	sealed sources	40 µCi	LSC standards
Ra-226	sealed source	10 µCi	LSC standard

CERTIFICATE

(This item must be completed by applicant)

I certify that this application is prepared in conformity with WRAMC Regulations and that all information contained herein, including any supplements attached hereto, is true and correct to the best of my knowledge and belief.

11. I ACKNOWLEDGE MY RESPONSIBILITIES AS PRINCIPAL USER AS DEFINED IN WRAMC REGULATIONS	12. ADMINISTRATIVE APPROVAL:

Second notice

HSHL-H-HP

JUN 1 8 1991

MEMORANDUM FOR: Dept.of Endo-Metabolism, Attn: Dr. Frances Carr

SUBJECT: Expiration of WRAMC Radioactive Material Authorization

1. WRAMC Radioactive Material Authorization No. 511 will expire in approximately ninety (90) days. If a properly completed application for renewal of the existing Authorization is received by this office thirty (30) days or more prior to the expiration date, the existing Authorization shall not expire until a final determination has been made on the renewal application.

2. If you desire to terminate your Authorization, please advise this office of your intent by placing a check mark (___) in the appropriate box provided below. Sign the Principal User's signature block and return the original copy of the signed statement to this office.

3. Attached to this Memo is an Authorization Renewal Packet containing all forms needed to renew your Authorization. All applications for renewal must include one (1) each of the following:

a. Completed copy of the application form
b. Updated Training and Experience form for each individual listed as Principal User or Co-Worker
c. A Research Protocol form (if enclosed)

4. All questions regarding this communication should be directed to the Chief, RMC Branch, Health Physics Office, WRAMC, Tel: 427-5104/5161.

David W. Burton

Encl

DAVID W. BURTON
Chief, RMC Branch
Health Physics, WRAMC

HSHL-RMC 1ST End

FROM:

FOR Health Physics Office, WRAMC, ATTN: Chief, RMC Branch

1. It is requested that WRAMC Radioactive Material Authorization No. _____ be cancelled.

2. Radioactive materials listed on the current Authorization will be:

✓ Transferred to WRAMC Health Physics Office for disposal as Radioactive waste
_____ Transferred to WRAMC Health Physics Office for reassignment to WRAMC Radioactive Material Authorization No. _____
_____ I do not possess any radioactive materials and therefore no transfer procedures are required

F. Carr

Frances F. Carr Ph.D, COL, USA 6-21-91

NAME/RANK DATE

DATE: 27 June 91

Authorization Review Process
Branch Input

Auth # 615 - 11

	A	B	COMMENTS
1	X	DMB	
2	X	DMB	
3	X	DMB	
4	X	KSB	4747 on 615, add on 4748
5	NA	KSB	
6	NA	DJC	
7	X	DMB	add Rhoan's training form present Yes Strachan, Neal Nagy, Rhoan Francis
8	X	DMB	? William Duncan TAE on file with HPO
9	NA	DMB	✓
10	NA	DJC	Deleted until they return to
11	X	DJC	unit.
12			
13			
14			
15			

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(9) - Fort Detrick - Auth#'s 541, 618, 619, 620, 621
(10) - TS Branch Bioassay
(11) - TS Branch Personnel dosimetry

(A) - (X) when complete, (0) when pending, and ( ) when pending completed
(B) - Initial of branch representative when complete or pending issues are resolved
(C) - Comments

WRAMC
Audit of Radioactive Material
(In accordance with AR 40-37 & 40-61)

Inspector: C. Collins Date: 10 MAY 94 Auth# 511

1. DA form 3862 [NO] (YES)
2. Within limits [NO] (YES)
3. Inventory Control Officer: Mr. Jesse Martin
   Room: BLDG 2 RM 4730
4. WRAMC Regulation 40-10 [NO] (YES)
5. WRAMC Authorization on hand [NO] (YES)
6. General Provisions - Terms & Conditions [NO] (YES)
7. LSC - Source No. & Location: RM 4743 152-Eu-002
8. WRAMC form 538 - current [NO] [YES] 152-Eu-001
9. Sink log. [NO] (YES) RM 6260 226-Ra-093
10. Signs & Labels: OK
11. Personnel (Additions) (Deletions)
    Melissa Loughney(Peters), Jian-Yu Feng, COL Leonard Wartofsky.
12. General Comments:
    (verified with Dr. Nicholson) DMB

Principal User: Mr. J. Martin (Authorized Representative:)
Jesse L Martin 5/10/94
Signature Date

WILLIAM B. JOHNSON
LTC, MS
CHIEF, HEALTH PHYSICS OFFICE

MAY 19 1994
This Application is given interim approval until the next meeting of the RSC

MEMO TO: HEALTH PHYSICS
MR. DAVID BURTON
SUBJ: AUTHORIZATION 646/615/511
DATE: February 24, 1994

1) Please add Dr. Melissa Peters Loughney as a technician permitted to use radioisotopes under authorization 511/615. She previously worked under authorization 646.

2) Please remove Dr. Leonard Wartofsky from the list of authorized users. He was previously listed under authorization 646. Dr. Wartofsky has left WRAMC.

D. E. Nicholson

Diarmuid E. Nicholson, PhD.
Kyle Metabolic Unit Research Laboratories
Department of Clinical Investigation

HSHL-HP (385-11h) 1st End Mr. David W. Burton/ab/427-5107

Health Physics Officer, WRAMC MAR 03 1994

FOR: Endo-Metabolism, ATTN: Dr. Diarmuid E. Nicholson, Auth # 511

Mark A. Melanson

MARK A. MELANSON
CPT, MS
Health Physics Officer

APPROVED BY
RCC MAR 17 1994
DATE

This Application is given interim approval until the next meeting of the RCC which is scheduled for: MAR 94

DATE: 24 FEB 94

Authorization Review Process
Branch Input

Auth # 511

	A	B	COMMENTS
1	X	DRMB	
2	NA	DRMB	
3	NA	DRMB	
4	NA	DRMB	
5	NA	DRMB	
6	NA	DRMB	
7	X	DRMB	538 Peters ~~10-24 Tang 4 Dec~~ Deleted
8	NA	DRMB	
9	NA	DRMB	
10	X	HC	
11	X	HC	
12			
13			
14			
15			

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DEPARTMENT OF THE ARMY
WALTER REED ARMY MEDICAL CENTER
WASHINGTON, DC 20307-5001

REPLY TO
ATTENTION OF:

MEMO TO: HEALTH PHYSICS
MR. DAVID BURTON
SUBJ: AUTHORIZATIONS 511 AND 615
DATE: October 20, 1993

1) Per our conversations, we request a merger of authorizations 511 and 615. The isotopes are used in the same facility by the same individuals.

2) Please remove Dr. Frances Carr and Col Kenneth Burman as the principal users for 511 and 615 respectively effective 11/1/93. Please add Dr. Dea Nicholson as the principal user for the new 511/615 authorization.

3) The personnel listed on the 511 and 615 authorizations should be included on the new 511/615 with the following exceptions:

Dr. Sudershan Bhatia, Col Robert Smallridge, Maj Sharon Jackson, Maj Karen Mahoney Cpt Javier Torrens, Cpt Maureen Koops, Dr. Yueh-Chu Tseng.

4) We request that the following personnel be maintained or added to the 511/615 authorization: Dr. Stephen Clement, Col Allan Glass, Dr. Frances Carr, Dr. Kenneth Burman, Dr. Juliann Kiang, Dr. Lu Rui and Dr. atwa.

We hope this re-organization will facilitate the communication process. Thank you.

Frances E. Carr, Ph.D.
Dir., KMU Research Labs
Dept. Clinical Invest.
[redacted]
Auth. #511
10/20/93

Kenneth D. Burman, COL MC
Chief, Div. Endocrinology/KMU
Dept. Medicine
[redacted]
Auth. #615
10/21/93

PERSONAL INFORMATION WAS REMOVED BY NRC. NO COPY OF THIS INFORMATION WAS RETAINED BY THE NRC.

MEMO TO: HEALTH PHYSICS
MR. DAVID BURTON
SUBJ: AUTHORIZATIONS 511 AND 615
DATE: November 1, 1993

1) I accept the responsibility as principal user for the 511/615 authorization.

D. E. Nicholson

Diarmuid E. Nicholson, PhD.
Kyle Metabolic Unit Research Laboratories
Department of Clinical Investigation

HSHL-HP (385-11h) 1st End

Mr. David W. Burton/ab/427-5107

Health Physics Officer, WRAMC

JAN 0 4 1994

FOR: Endo-Metabolism, ATTN: Dr. Diarmuid E. Nicholson, Auth # 511

Arthur G. Samiljan

ARTHUR G. SAMILJAN
LTC, MS
Health Physics Officer

APPROVED BY RCC

MAR 17 1994

DATE

This Application is given interim approval until the next meeting of the RCC which is scheduled for: MAR94

DATE: 27 OCT 93

Authorization Review Process
Branch Input

Auth # 5111615

	A	B	COMMENTS
1	Ø	DRW	Memo to accept P.W. received 14 Dec 93 signed by Nicholson
2	NA	DRW	
3	NA	DRW	
4	NA	DRW	
5	NA	DRW	
6	NA	DRW	
7	Ø	DRW	~~Atwa, Lasvett, Baptiste, Lahiri~~ 12-14 OK ~~Rai Glass, Clement~~
8	Ø	DRW	Nicholson 12-14 OK, Atwa? called 10 Nov, 14 Dec
9	X	LW	
10	X	LW	
11			
12			
13			
14			
15			

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(A) - (X) when complete, (0) when pending, and ( ) when pending completed
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(C) - Comments

MEMO TO: HEALTH PHYSICS
MR. DAVID BURTON
SUBJ: AUTHORIZATION 646
DATE: December 15, 1993

1) I accept the responsibility as principal user for the 646 authorization.

D. E. Nicholson

Diarmuid E. Nicholson, PhD.
Kyle Metabolic Unit Research Laboratories
Department of Clinical Investigation

Please transfer the rooms and the isotope users presently listed under authorization 646 to authorization 511

D. E. Nicholson

HSHL-HP (385-11h) 1st End

Mr. David W. Burton/ab/427-5107

Health Physics Officer, WRAMC

JAN 04 1994

FOR: Endo-Metabolism, ATTN: Dr. Diarmuid E. Nicholson, Auth # 511

ARTHUR G. SAMILJAN
LTC, MS
Health Physics Officer

This Application is given interim approval until the next meeting of the RCC which is scheduled for: MAR94

APPROVED BY RCC

MAR 17 1994

DATE

DATE: 17DEC93

Authorization Review Process
Branch Input

Auth # 51-1646

	A	B	COMMENTS
1	X	DWB	
2	X	DWB	
3	X	DWB	
4	NA	DWB	
5	NA	DWB	
6	NA	DWB	
7	X	DWB	on file
8	X	DWB	on file
9	NA	DWB	
10	X	WCS	
11	X	WCS	
12			
13			
14			
15			

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(C) - Comments

HSHL-ME

29 October 1993

MEMORANDUM FOR Mr. David Burton, Health Physics Office

SUBJECT: Isotope #615

1. Please add Dr. Atwa to isotope #615. He will be working on several protocols - especially 1354-92. He will be here 2 years and will likely be using P^{32} and ^{125}I.

2. Please also discuss proper procedures with Dr. Melissa Loughney [redacted]

PERSONAL INFORMATION WAS REMOVED BY NRC. NO COPY OF THIS INOFRMATION WAS RETAINED BY THE NRC.

KDB/uhp

KENNETH D. BURMAN, M.D.
Colonel, Medical Corps
Chief, Endocrine-Metabolic Service
and Kyle Metabolic Unit
(202) 576-1793 (Tel)
(202) 576-9077 (Fax)

DATE: 9NOV93

Authorization Review Process
Branch Input

Auth # 615/511

	A	B	COMMENTS
1			
2			
3			
4			
5			
6			
7	0		
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AUTH # 511

(8) Medical Surveillance Program: Preplacement and termination medical examinations will be given to all radiation workers (military and civilian) by the supporting medical treatment facility (see AR 40-14; pg. 6).

(9) Pregnancy Surveillance Program: When a pregnant woman is occupationally exposed to ionizing radiation, the embryo-fetus enters the radiation environment involuntarily. Therefore, the female employee is responsible for advising her employer of the fact that she is pregnant. The employer must notify Health Physics of the pregnancy as soon as possible so the Pregnancy Surveillance Program can be implemented (see AR 40-14; pg. 8).

B. All personnel will acknowledge receiving and understanding the above information by signing and dating this form or WRAMC Form 538, Radiation Worker Briefing.

SIGN-IN FOR ANNUAL TRAINING: DATE - 7/23/93

ANDERSON, Jeffrey	[signature]
BAPTISTE, Victor SGT	on leave
BARNES, Susan	[signature]
BHATIA, Sudershan Dr.	delete
BURMAN, Kenneth COL	[signature]
DJUH, Yin-Ying	[signature]
DUNCAN, William LTC	on leave
FENG, Jiang-Yu Dr.	[signature]
FISHER, Carolyn	on leave
FRANCIS, Thomas CPT	[signature]
JENKINS, Elmer	[signature]
KIANG, Juliann Dr.	
LAHIRI, Sabita	on leave

As Principal User I have insured that the above named individuals have received a briefing in accordance with 10 CFR Part 19.

CARR, FRANCES DR. [signature] 8/23/93

SIGNATURE / DATE

AUTH # 511

(8) Medical Surveillance Program: Preplacement and termination medical examinations will be given to all radiation workers (military and civilian) by the supporting medical treatment facility (see AR 40-14; pg. 6).

(9) Pregnancy Surveillance Program: When a pregnant woman is occupationally exposed to ionizing radiation, the embryo-fetus enters the radiation environment involuntarily. Therefore, the female employee is responsible for advising her employer of the fact that she is pregnant. The employer must notify Health Physics of the pregnancy as soon as possible so the Pregnancy Surveillance Program can be implemented (see AR 40-14; pg. 8).

B. All personnel will acknowledge receiving and understanding the above information by signing and dating this form or WRAMC Form 538, Radiation Worker Briefing.

SIGN-IN FOR ANNUAL TRAINING:

	DATE
LUKES, Yvonne	Yvonne D. Lukes 7/22/93
MARTIN, Jesse	Jesse Martin
NICHOLSON, D.E. Dr.	D.E. Nicholson
RHOOMS, Phyllis	Phyllis Rhooms

As Principal User I have insured that the above named individuals have received a briefing in accordance with 10 CFR Part 19.

CARR, FRANCES DR. — Frances Carr 8/13/93

SIGNATURE / DATE

AUTH # 511

(8) Medical Surveillance Program: Preplacement and termination medical examinations will be given to all radiation workers (military and civilian) by the supporting medical treatment facility (see AR 40-14; pg. 6).

(9) Pregnancy Surveillance Program: When a pregnant woman is occupationally exposed to ionizing radiation, the embryo-fetus enters the radiation environment involuntarily. Therefore, the female employee is responsible for advising her employer of the fact that she is pregnant. The employer must notify Health Physics of the pregnancy as soon as possible so the Pregnancy Surveillance Program can be implemented (see AR 40-14; pg. 8).

B. All personnel will acknowledge receiving and understanding the above information by signing and dating this form or WRAMC Form 538, Radiation Worker Briefing.

SIGN-IN FOR ANNUAL TRAINING: DATE - 5-3

ANDERSON, Jeffrey	Jeffrey Anderson
ANSLEY, Reynolds SSG	Deleted
BAPTISTE, Victor SGT	
BARNES, Susan	
BURMAN, Kenneth COL	
DJUH, Yin-Ying	
DUNCAN, William ~~MAJ~~ LTC (P)	William [illegible]
FISHER, Carolyn Dr.	Carolyn U Fisher
LAHIRI, Sabita	
LUKES, Yvonne	
NICHOLSON, Diarmuid Dr.	
JENKINS, ELMER	[illegible]

As Principal User I have insured that the above named individuals have received a briefing in accordance with 10 CFR Part 19.

CARR, FRANCES Dr.

SIGNATURE / DATE

FAX : 301-427-6638

AUTH # 511

(8) Medical Surveillance Program: Preplacement and termination medical examinations will be given to all radiation workers (military and civilian) by the supporting medical treatment facility (see AR 40-14; pg. 6).

(9) Pregnancy Surveillance Program: When a pregnant woman is occupationally exposed to ionizing radiation, the embryo-fetus enters the radiation environment involuntarily. Therefore, the female employee is responsible for advising her employer of the fact that she is pregnant. The employer must notify Health Physics of the pregnancy as soon as possible so the Pregnancy Surveillance Program can be implemented (see AR 40-14; pg. 8).

B. All personnel will acknowledge receiving and understanding the above information by signing and dating this form or WRAMC Form 538, Radiation Worker Briefing.

SIGN-IN FOR ANNUAL TRAINING: DATE - 10-5-92

ANDERSON, Jeffrey	
~~ANSLEY, Reynolds SSG~~ NO LONGER IN THIS UNIT	
BAPTISTE, Victor SGT	
BARNES, Susan	
BURMAN, Kenneth COL	
DJUH, Yin-Ying	
DUNCAN, William MAJ	
FISHER, Carolyn D~~X~~.	
LAHIRI, Sabita	
LUKES, Yvonne	
NICHOLSON, Diarmuid Dr.	
RHOOMS, Phyllis	
FENG, JIAN-YU DR.	
FRANCIS, THOMAS CPT.	
CARR, FRANCES Dr.	
MARTIN, JESSE	
JENKENS, ELMER	
KIANG, JULIANN	

As Principal User I have insured that the above named individuals have received a briefing in accordance with 10 CFR Part 19.

SIGNATURE	/ DATE
	10/8/92
	10/5/92
	10/5/92
	10/6/92

DATE: 25AUG93

Authorization Review Process
Branch Input

Auth # 511

	A	B	COMMENTS
1	O		Memo Add Koops + Lasswell
2	NA	DWB	
3	NA	DWB	Subs Kiang Baptiste Lukin
4			
5			
6	NA	DWB	
7	O		Koops
8			Trainee? sending memo 8 Sept, called Nichol 8 Oct
9	NA	DWB	
10			
11			
12			
13			
14			
15			

Index of Numbers and Symbols used above:

(1) - Forms (WRAMC 1661R, 1662R, 1643) (Completed/typed)
(2) - Protocol (Required for: 3-H, 32-P, 125-I, 131-I, and all others deemed necessary by - amounts, activity, or use. (Reference NBS Handbook #92)
(3) - Isotopes (within limits for NRC License/personnel qualifications)
(4) - OPS Branch room pre-survey
(5) - OPS Branch room final survey
(6) - TS Branch instrumentation assignment
(7) - Training - WRAMC Form 538 (Completed by users annually)
(8) - Training - WRAMC Form 1643 (Training and Experience Form)
(9) - Fort Detrick - Auth#'s 541, 618, 619, 620, 621
(10) - TS Branch Bioassay
(11) - TS Branch Personnel dosimetry

(A) - (X) when complete, (0) when pending, and ( ) when pending completed
(B) - Initial of branch representative when complete or pending issues are resolved
(C) - Comments

AUTH # 615

(8) Medical Surveillance Program: Preplacement and termination medical examinations will be given to all radiation workers (military and civilian) by the supporting medical treatment facility (see AR 40-14; pg. 6).

(9) Pregnancy Surveillance Program: When a pregnant woman is occupationally exposed to ionizing radiation, the embryo-fetus enters the radiation environment involuntarily. Therefore, the female employee is responsible for advising her employer of the fact that she is pregnant. The employer must notify Health Physics of the pregnancy as soon as possible so the Pregnancy Surveillance Program can be implemented (see AR 40-14; pg. 8).

B. All personnel will acknowledge receiving and understanding the above information by signing and dating this form or WRAMC Form 538, Radiation Worker Briefing.

SIGN-IN FOR ANNUAL TRAINING:	DATE -
BHOOMS, Phyllis	Phyllis Bhooms 7/15/93
~~SMALLRIDGE, Robert COL~~	Delete
~~TSENG, Yueh-Chu DR.~~	sick leave Delete

As Principal User I have insured that the above named individuals have received a briefing in accordance with 10 CFR Part 19.

BURMAN, Kenneth COL

SIGNATURE / DATE

8/12/93

for KD Burman

AUTH # 615

(8) Medical Surveillance Program: Preplacement and termination medical examinations will be given to all radiation workers (military and civilian) by the supporting medical treatment facility (see AR 40-14; pg. 6).

(9) Pregnancy Surveillance Program: When a pregnant woman is occupationally exposed to ionizing radiation, the embryo-fetus enters the radiation environment involuntarily. Therefore, the female employee is responsible for advising her employer of the fact that she is pregnant. The employer must notify Health Physics of the pregnancy as soon as possible so the Pregnancy Surveillance Program can be implemented (see AR 40-14; pg. 8).

B. All personnel will acknowledge receiving and understanding the above information by signing and dating this form or WRAMC Form 538, Radiation Worker Briefing.

SIGN-IN FOR ANNUAL TRAINING:	DATE -
ANDERSON, Jeffrey	Jon Anderson 7/15/93
BARNES, Susan	Susan B. Barnes 7/19/93
~~BHATIA, Sudershan DR.~~	
BURCH, Henry ~~CPT~~ MAJ	
CARR, Frances DR.	8/13/93
CLEMENT, Stephen	
DJUH, Yin-Ying	7/16/93
FRANCIS, Thomas DR.	
~~GLASS, Allan COL~~	
~~JACKSON, Sharon~~	Delete
LAHIRI, Sabita	Sabita Lahiri 7/19/93
LUKES, Yvonne	Yvonne D. Lukes 7/15/93
~~MAHONEY, Karen~~	Delete

As Principal User I have insured that the above named individuals have received a briefing in accordance with 10 CFR Part 19.

BURMAN, Kenneth COL

SIGNATURE / DATE

DATE: 25AUG93

Authorization Review Process
Branch Input

Auth # 615

	A	B	COMMENTS
1	O		To add ~~Jarvis~~ Torrens CPT
2			
3			
4			
5			
6			
7	O		Clement; called Nichols 12 Oct
8			
9			
10	O	SGW	~~#56~~
11	O	SGW	~~1952~~ to Wallace
12			
13			
14			
15			

Index of Numbers and Symbols used above:

(1) - Forms (WRAMC 1661R, 1662R, 1643) (Completed/typed)
(2) - Protocol (Required for: 3-H, 32-P, 125-I, 131-I, and all others deemed necessary by - amounts, activity, or use. (Reference NBS Handbook #92)
(3) - Isotopes (within limits for NRC License/personnel qualifications)
(4) - OPS Branch room pre-survey
(5) - OPS Branch room final survey
(6) - TS Branch instrumentation assignment
(7) - Training - WRAMC Form 538 (Completed by users annually)
(8) - Training - WRAMC Form 1643 (Training and Experience Form)
(9) - Fort Detrick - Auth#'s 541, 618, 619, 620, 621
(10) - TS Branch Bioassay
(11) - TS Branch Personnel dosimetry

(A) - (X) when complete, (O) when pending, and ( ) when pending completed
(B) - Initial of branch representative when complete or pending issues are resolved
(C) - Comments

Memo for: Mr.David Burton
Health Physics Office
Forest Glen

Subj: Annual training and dosimetry for Authorization 511

Please add Dr. J-Y Feng and Dr. S. Bhatia to authorization 511. They will need dosimetry monitoring as they will be using ^{32}P on a daily basis. They have received initial training and attended our annual training review. Enclosed are their dosimetry applications.

Mr. Jesse Martin was removed from dosimetry monitoring. Since he handles the isotope storage and accounting, I am not sure why his name was removed from both authorization and monitoring. Please return his name to my authorization and reinstitute monitoring.

Dr. Juliann Kiang, Dept. Clinical Physiology, Division of Medicine, WRAIR will be also working in my laboratory. She already has a whole body badge for monitoring and her forms are on file. Please add her to authorization 511.

Enclosed is the annual training.

Thank you.

Frances E. Carr, Ph.D.
Director, Kyle Metabolic Unit
Research Laboratories
Dept. of Clinical Investigation

HSHL-HP (385-11h) 1st End

Mr. David W. Burton/ab/427-5107

Health Physics Officer, WRAMC

19 OCT 1992

FOR: Endo-Metabolism, ATTN: Dr. Frances Carr, Authorization # 511

APPROVED BY
RCC 17 DEC 1992
DATE

ARTHUR G. SAMILJAN
LTC, MS
Health Physics Officer

This Application is given interim approval until the next meeting of the RCC which is scheduled for: NOV92

511

AUTH # 511

(8) Medical Surveillance Program: Preplacement and termination medical examinations will be given to all radiation workers (military and civilian) by the supporting medical treatment facility (see AR 40-14; pg. 6).

(9) Pregnancy Surveillance Program: When a pregnant woman is occupationally exposed to ionizing radiation, the embryo-fetus enters the radiation environment involuntarily. Therefore, the female employee is responsible for advising her employer of the fact that she is pregnant. The employer must notify Health Physics of the pregnancy as soon as possible so the Pregnancy Surveillance Program can be implemented (see AR 40-14; pg. 8).

B. All personnel will acknowledge receiving and understanding the above information by signing and dating this form or WRAMC Form 538, Radiation Worker Briefing.

SIGN-IN FOR ANNUAL TRAINING:

	DATE -	
ANDERSON, Jeffrey	11 May 81	Jeffrey Anderson
~~ANSLEY, Reynolds SSG~~	no longer here	
BARNES, Susan	080875	Susan M Barnes
BURMAN, Kenneth COL	060675	
DJUH, Yin-Ying	3 Aug 72	
DUNCAN, William ~~MC~~ LTC	10 MAY 88	
FISHER, Carolyn Dr.	080878	
LAHIRI, Sabita	01 JUN 87	On leave from RMC until 15 Sept 92
LUKES, Yvonne	5/5/70	Sabita J Lahiri
NICHOLSON, D.E. Dr.	3 JUN 86	
BAPTISTE, Victor SGT	14 MAY 92	
615 BUECH HENRY	01 NOV 88	
FRANCIS, Thomas	27/11/90	
RHOOMS, PHYLLIS	8/8/77	Phyllis Rhooms

As Principal User I have insured that the above named individuals have received a briefing in accordance with 10 CFR Part 19.

CARR, FRANCES DR

8-25-92

SIGNATURE / DATE

Martin Jesse	5/10/88
Jenkens OCT 14 1992	11/11/87
Kiang, Juliana	11/27/89
Francis, Thomas	11/27/90
Fong J-Y	5/14/92

HEALTH PHYSICS RADIOACTIVE PROTOCOL

a. Principal User	b. Telephone Number	c. Authorization Number
DIARMUID NICHOLSON	576-2171, -1419	511

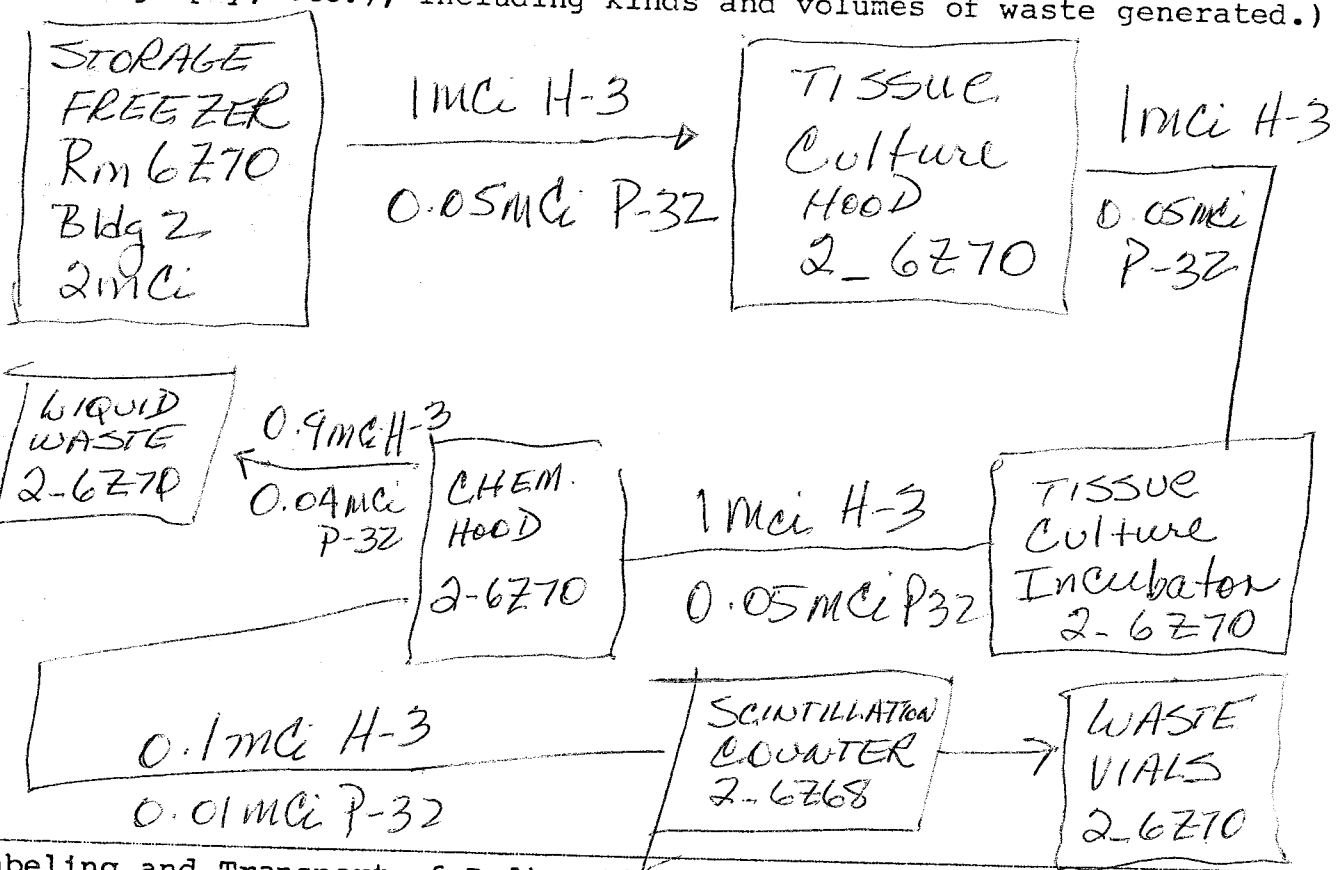
d. Coworkers	e. Trainees	f. Technicians
HENRY BURCH		SABITA LAHIRI SUSAN BARNES

g. Radioisotope(s)	h. Physical/Chemical Form	i. Maximum Quantity per Experiment (mCi)
P-32	NUCLEOTIDE/LIQUID	0.05
H-3	NUCLEOTIDE/LIQUID	1.0

j. Title of Project CONTINUATION
MEASUREMENT OF DNA SYNTHESIS IN CELLS

k. Beginning Date	l. Ending Date	m. Repetitive Study
APR '92	APR '96	Yes ☒ No ☐

n. Life Cycle of Radioisotope Utilized for Research Procedure (Use block/flow diagram to show what, how, where, how much isotope is used from receipt to disposal; emphasize major steps (incubate over night, run gel, autoradiography, etc.), including kinds and volumes of waste generated.)



o. Labeling and Transport of Radioactive Material: All radioactive solutions, tissues, animals and waste will be identified by proper labels. Transport of radioactive material between authorized work areas will be conducted in a manner that precludes the spread of contamination and inadvertent exposure of non-participating personnel.

WRAMC FORM 1644
1 Jan 91

p. Laboratory Animal Usage: None [X] If yes, complete following:

Species:
Disposition of animals: Room: Bldg:

q. Isotope Utilization Locations:

	(1)	(2)	(3)	(4)	(5)
Building	2	2			
Room	6Z70	6Z68			
Maximum Amount (mCi)	2	0.05			

r. Maximum Amount in Possession (mCi) 2

	Bldg	Room	Maximum Amt (mCi)
s. Isotope Storage Location(s)	2	6Z60	2.0
t. Waste Storage Location(s)	2	6Z60	1.0
u. Animal/Tissue Storage Location	—	—	—

v. All radioactive waste will be transfered to the Health Physics Office in accordance with Health Physics Condition No. 4. Yes

w. All room surveys will be conducted in accordance with Health Physics Condition No. 2. yes

x. Personnel Dosimetry will be requested in accordance with Health Physics Condition No. 1. Assigned dosimetry monitors will be worn by all participating personnel.

Whole Body [✓] TLD Ring [✓]

y. Are there any significant "NON-RADIATION" personnel hazards associated with this experiment; (Biological [Aids, etc.], Hazardous Chemicals [Toxic, Explosive, Corrosive etc.], Sharps, Lasers, Microwaves, electrical etc.) that may effect Health Physics personnel during routine inspections, surveys or waste handling procedures. If yes specify:

NO [X] YES [ ]

The Research Protocol described above is designed to ensure that occupational radiation exposures and the release of radioactive effluents to the environment will be "as low as reasonably achievable" (ALARA) during all phases of the research procedure.

Printed Name and Signature of Principal User: DIARMUID NICHOLSON Ph.D.
D. E. Nicholson

Date: June 16, 1994 Rank/GS grade GS12

Title: Kyle Metabolic LAB DIRECTOR

Telephone Number (202) 576-2171, -1479

HEALTH PHYSICS RADIOACTIVE PROTOCOL

a. Principal User	b. Telephone Number	c. Authorization Number
NICHOLSON, Diarmuid	(202)576-2171	511

d. Coworkers	e. Trainees	f. Technicians
	Francis, Thomas	Anderson, Jeffrey

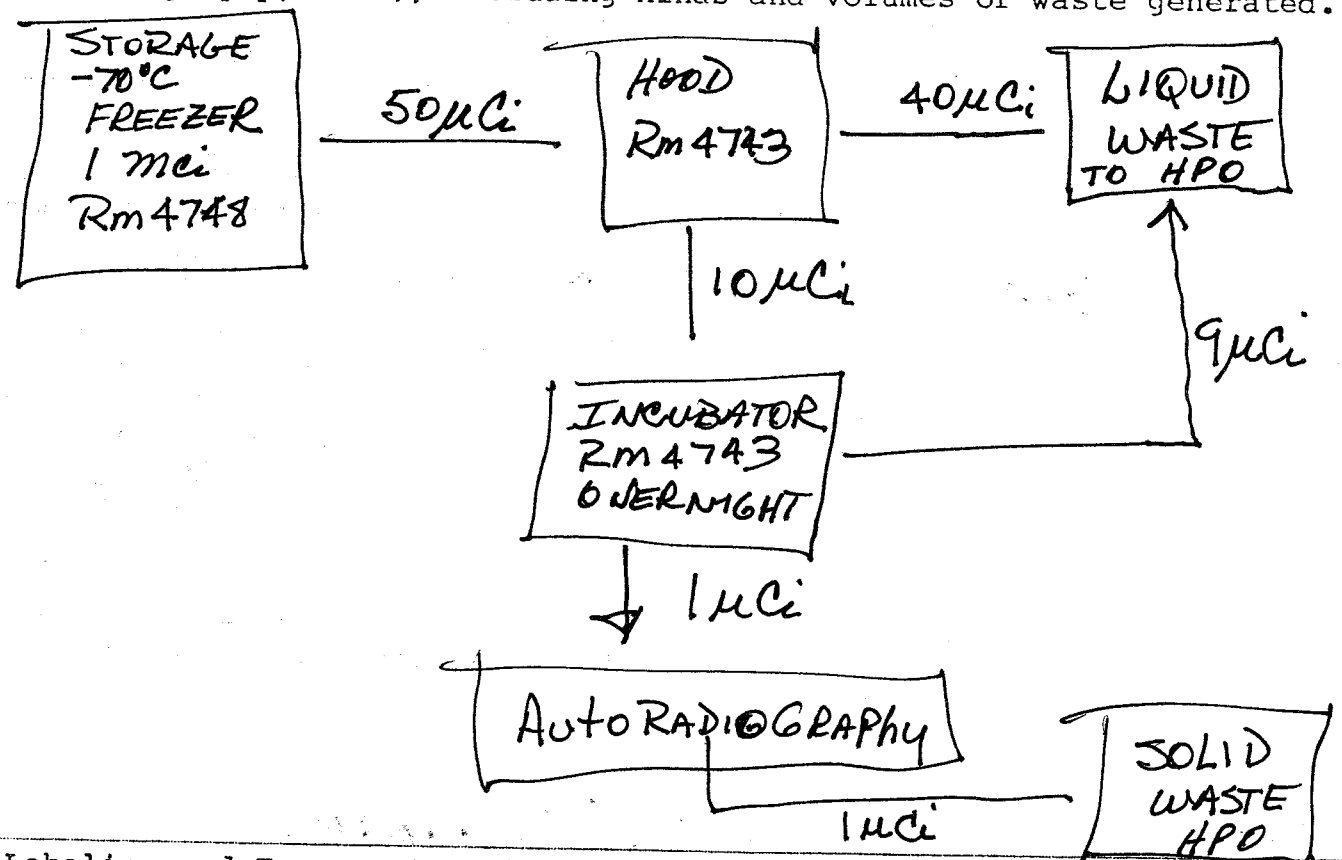
g. Radioisotope(s)	h. Physical/Chemical Form	i. Maximum Quantity per Experiment (mCi)
P-32	Unsealed/nucleotide/liquid	50microCi

j. Title of Project

Creation of a Human YAC Library

k. Beginning Date	l. Ending Date	m. Repetitive Study
July 1992	July 1995	Yes [X] No [ ]

n. Life Cycle of Radioisotope Utilized for Research Procedure (Use block/flow diagram to show what, how, where, how much isotope is used from receipt to disposal; emphasize major steps (incubate over night, run gel, autoradiography, etc.), including kinds and volumes of waste generated.)



o. Labeling and Transport of Radioactive Material: All radioactive solutions, tissues, animals and waste will be identified by proper labels. Transport of radioactive material between authorized work areas will be conducted in a manner that precludes the spread of contamination and inadvertent exposure of non-participating personnel.

p. Laboratory Animal Usage: None [X] If yes, complete following:

Species:
Disposition of animals: Room: Bldg:

q. Isotope Utilization Locations:

	(1)	(2)	(3)	(4)	(5)
Building	2	2			
Room	4748	4743			
Maximum Amount (mCi)	1	0.05			

	Bldg	Room	Maximum Amt (mCi)
r. Maximum Amount in Possession (mCi)			
s. Isotope Storage Location(s)	2	4748	1
t. Waste Storage Location(s)	2	4743	5
u. Animal/Tissue Storage Location	~	—	—

v. All radioactive waste will be transfered to the Health Physics Office in accordance with Health Physics Condition No. 4. Yes

w. All room surveys will be conducted in accordance with Health Physics Condition No. 2. Yes

x. Personnel Dosimetry will be requested in accordance with Health Physics Condition No. 1. Assigned dosimetry monitors will be worn by all participating personnel.
Yes Whole Body [X] TLD Ring [X]

y. Are there any significant "NON-RADIATION" personnel hazards associated with this experiment; (Biological [Aids, etc.], Hazardous Chemicals [Toxic, Explosive, Corrosive etc.], Sharps, Lasers, Microwaves, electrical etc.) that may effect Health Physics personnel during routine inspections, surveys or waste handling procedures.
If yes specify:
NO [X] YES [ ]

The Research Protocol described above is designed to ensure that occupational radiation exposures and the release of radioactive effluents to the environment will be "as low as reasonably achievable" (ALARA) during all phases of the research procedure.

Printed Name and Signature of Principal User: Diarmuid E. NICHOLSON, Ph.D. D E Nicholson

Date: 15 May 94 Rank/GS grade GS 12

Title: Director Kyle Metabolic Research Laboratories

Telephone Number (202)576-2171 or 576-1419

HEALTH PHYSICS RADIOACTIVE PROTOCOL

a. Principal User	b. Telephone Number	c. Authorization Number
NICHOLSON, Diarmuid	(202)576-2171	511

d. Coworkers	e. Trainees	f. Technicians
BURCH, Henry BURMAN, Kenneth	KIANG, Juliann	BARNES, Susan LAHIRI, Sabita LUKES, Yvonne

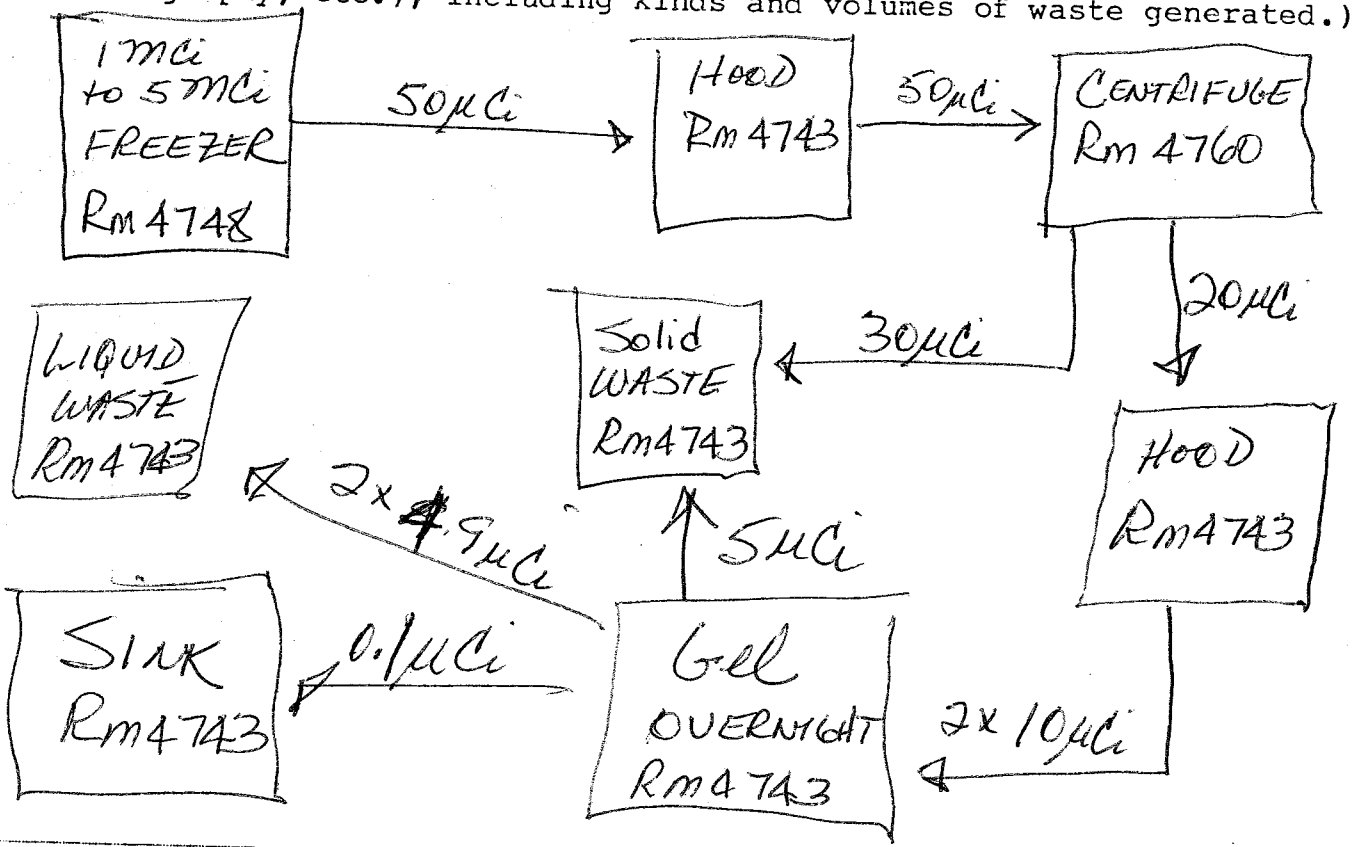
g. Radioisotope(s)	h. Physical/Chemical Form	i. Maximum Quantity per Experiment (mCi)
S-35	Unsealed/nucleotide/liquid	50micro Ci (0.05mCi)
P-33	Unsealed/nucleotide/liquid	0.05mCi
P-32	Unsealed/nucleotide/liquid	0.05mCi

j. Title of Project

Radiolabelling of Nucleic Acids

k. Beginning Date	l. Ending Date	m. Repetitive Study
July 1990	July 1996	Yes [X] No [ ]

n. Life Cycle of Radioisotope Utilized for Research Procedure (Use block/flow diagram to show what, how, where, how much isotope is used from receipt to disposal; emphasize major steps (incubate over night, run gel, autoradiography, etc.), including kinds and volumes of waste generated.)



o. Labeling and Transport of Radioactive Material: All radioactive solutions, tissues, animals and waste will be identified by proper labels. Transport of radioactive material between authorized work areas will be conducted in a manner that precludes the spread of contamination and inadvertent exposure of non-participating personnel.

p. Laboratory Animal Usage: None [X] If yes, complete following:

Species:
Disposition of animals: Room: Bldg:

q. Isotope Utilization Locations:

	(1)	(2)	(3)	(4)	(5)
Building	2	2	2		
Room	4748	4743	4760		
Maximum Amount (mCi)	1	0.05	0.05		

	Bldg	Room	Maximum Amt (mCi)
r. Maximum Amount in Possession (mCi)			
s. Isotope Storage Location(s)	2	4748	5
t. Waste Storage Location(s)	2	4743	5
u. Animal/Tissue Storage Location			

v. All radioactive waste will be transfered to the Health Physics Office in accordance with Health Physics Condition No. 4. yes

w. All room surveys will be conducted in accordance with Health Physics Condition No. 2. yes

x. Personnel Dosimetry will be requested in accordance with Health Physics Condition No. 1. Assigned dosimetry monitors will be worn by all participating personnel.

yes Whole Body [X] TLD Ring [X]

y. Are there any significant "NON-RADIATION" personnel hazards associated with this experiment; (Biological [Aids, etc.], Hazardous Chemicals [Toxic, Explosive, Corrosive etc.], Sharps, Lasers, Microwaves, electrical etc.) that may effect Health Physics personnel during routine inspections, surveys or waste handling procedures. If yes specify:

NO [X] YES [ ]

The Research Protocol described above is designed to ensure that occupational radiation exposures and the release of radioactive effluents to the environment will be "as low as reasonably achievable" (ALARA) during all phases of the research procedure.

Printed Name and Signature of Principal User: Diarmuid E. NICHOLSON

H E Nicholson

Date: 15 MAY 94 Rank/GS grade

Title: Director Kyle Metabolic Unit Laboratories GS12

Telephone Number (202)576-2171 or 576-1419

HEALTH PHYSICS RADIOACTIVE PROTOCOL

a. Principal User	b. Telephone Number	c. Authorization Number
NICHOLSON, Diarmuid	(202)576-2171	511

d. Coworkers	e. Trainees	f. Technicians
CLEMENT, Stephen	Rui, Lu Atwa, Mohamad	
DUNCAN, William	Laswell, William	Jenkins, Elmer

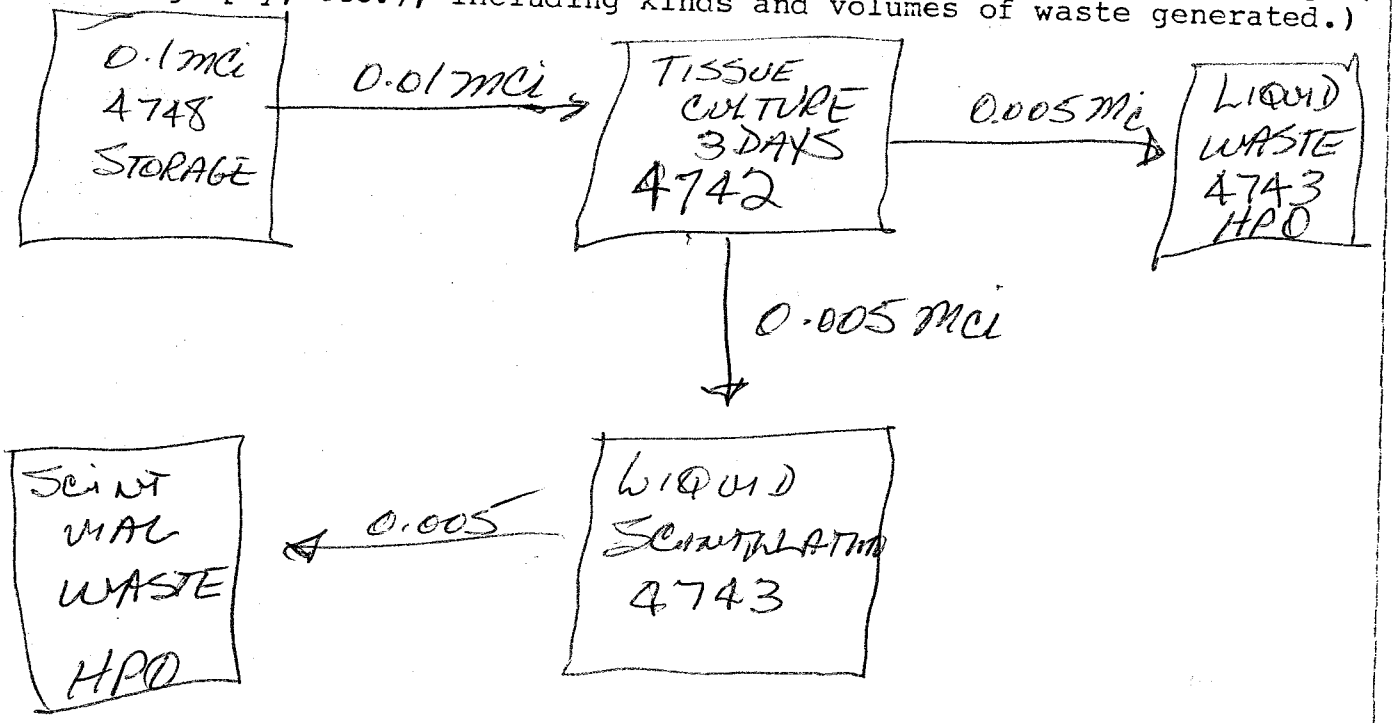
g. Radioisotope(s)	h. Physical/Chemical Form	i. Maximum Quantity per Experiment (mCi)
H-3	Unsealed/steroid/liquid	0.05mCi
I-125	Unsealed/antibody/lq or solid	0.005mCi

j. Title of Project

Vitamin D Receptor Assay and Steroid Receptor Assas

k. Beginning Date	l. Ending Date	m. Repetitive Study
June 1990	June 1996	Yes [X] No [ ]

n. Life Cycle of Radioisotope Utilized for Research Procedure (Use block/flow diagram to show what, how, where, how much isotope is used from receipt to disposal; emphasize major steps (incubate over night, run gel, autoradiography, etc.), including kinds and volumes of waste generated.)



o. Labeling and Transport of Radioactive Material: All radioactive solutions, tissues, animals and waste will be identified by proper labels. Transport of radioactive material between authorized work areas will be conducted in a manner that precludes the spread of contamination and inadvertent exposure of non-participating personnel.

p. Laboratory Animal Usage:

None [X] If yes, complete following:

Species:

Disposition of animals: Room: Bldg:

q. Isotope Utilization Locations:

	(1)	(2)	(3)	(4)	(5)
Building	~~#~~2	2	2	2	
Room	4748	4743	4760	4742	
Maximum Amount (mCi)	0.1	0.01	0.01	0.01	

	Bldg	Room	Maximum Amt (mCi)
r. Maximum Amount in Possession (mCi)			
s. Isotope Storage Location(s)	2	4748	0.1
t. Waste Storage Location(s)	2	4743	0.01
u. Animal/Tissue Storage Location	~	~	~

v. All radioactive waste will be transfered to the Health Physics Office in accordance with Health Physics Condition No. 4. yes

w. All room surveys will be conducted in accordance with Health Physics Condition No. 2. yes

x. Personnel Dosimetry will be requested in accordance with Health Physics Condition No. 1. Assigned dosimetry monitors will be worn by all participating personnel.

yes Whole Body [X] TLD Ring [X]

y. Are there any significant "NON-RADIATION" personnel hazards associated with this experiment; (Biological [Aids, etc.], Hazardous Chemicals [Toxic, Explosive, Corrosive etc.], Sharps, Lasers, Microwaves, electrical etc.) that may effect Health Physics personnel during routine inspections, surveys or waste handling procedures. If yes specify:

NO [X] YES [ ]

The Research Protocol described above is designed to ensure that occupational radiation exposures and the release of radioactive effluents to the environment will be "as low as reasonably achievable" (ALARA) during all phases of the research procedure.

Printed Name and Signature of Principal User: Diarmuid NICHOLSON Ph.D.

W. E. Nicholson

Date: 15MAY94 Rank/GS grade

Title: ~~Director Kyle Metabolic Research Laboratories~~ GS12

Telephone Number (202)576-1419 -2171

HEALTH PHYSICS RADIOACTIVE PROTOCOL

a. Principal User	b. Telephone Number	c. Authorization Number
NICHOLSON, Diarmuid	(202)576-2171 -1419	511

d. Coworkers	e. Trainees	f. Technicians
REED, Lester	ATWA, Mohamad	Martin, Jesse Baptste, Victor

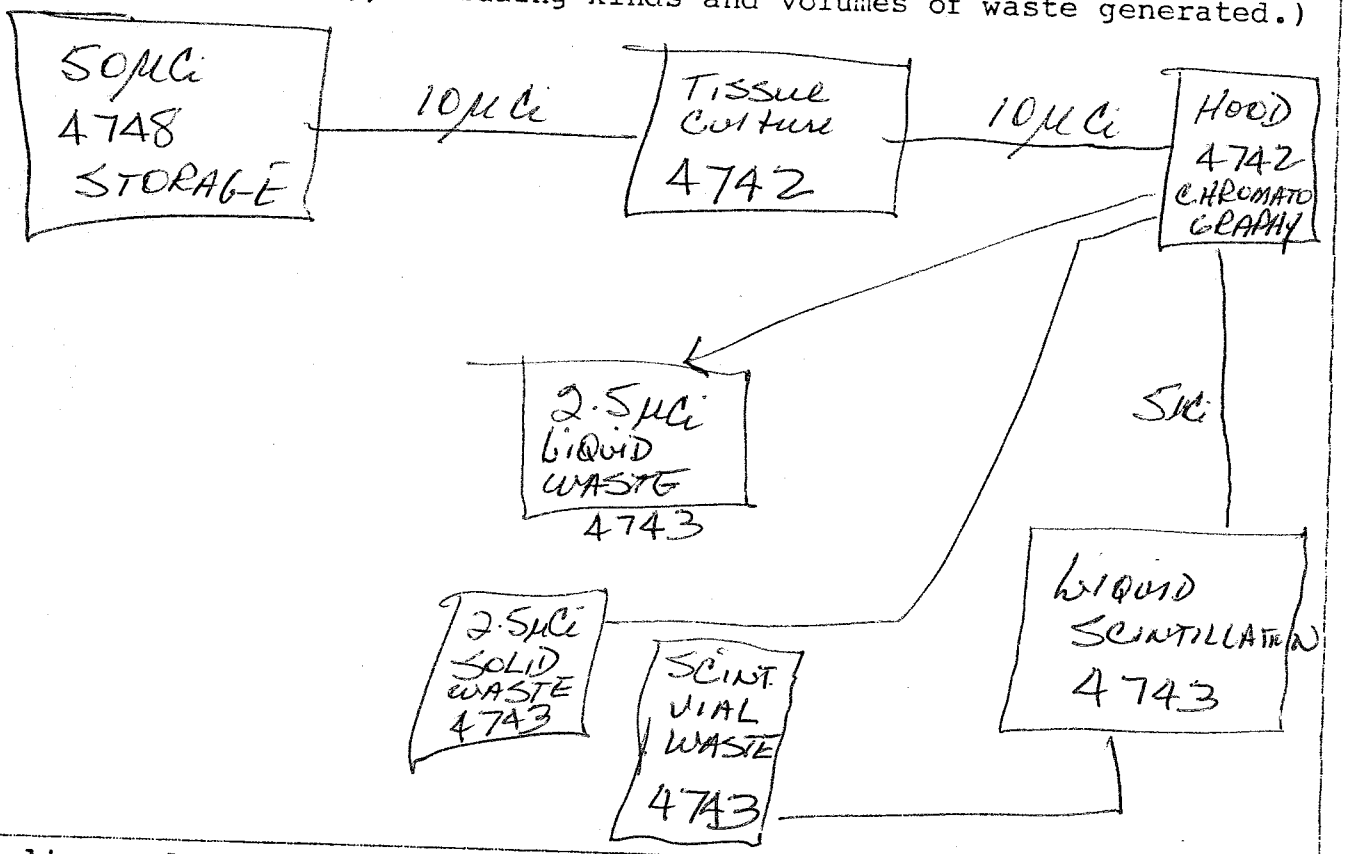
g. Radioisotope(s)	h. Physical/Chemical Form	i. Maximum Quantity per Experiment (mCi)
C-14	Unsealed/chloramphenicol/liquid	0.01mCi

j. Title of Project

In Vitro assay of gene expression

k. Beginning Date	l. Ending Date	m. Repetitive Study
June 1994	June 1997	Yes [X] No [ ]

n. Life Cycle of Radioisotope Utilized for Research Procedure (Use block/flow diagram to show what, how, where, how much isotope is used from receipt to disposal; emphasize major steps (incubate over night, run gel, autoradiography, etc.), including kinds and volumes of waste generated.)



o. Labeling and Transport of Radioactive Material: All radioactive solutions, tissues, animals and waste will be identified by proper labels. Transport of radioactive material between authorized work areas will be conducted in a manner that precludes the spread of contamination and inadvertent exposure of non-participating personnel.

p. Laboratory Animal Usage: None [X] If yes, complete following:

Species:
Disposition of animals: Room: Bldg:

q. Isotope Utilization Locations:

	(1)	(2)	(3)	(4)	(5)
Building	2	2	2		
Room	4748	4742	4743		
Maximum Amount (mCi)	0.05	0.005	0.005		

	Bldg	Room	Maximum Amt (mCi)
r. Maximum Amount in Possession (mCi)			
s. Isotope Storage Location(s)	2	4748	0.1
t. Waste Storage Location(s)	2	4743	0.05
u. Animal/Tissue Storage Location	—	—	—

v. All radioactive waste will be transfered to the Health Physics Office in accordance with Health Physics Condition No. 4. Yes

w. All room surveys will be conducted in accordance with Health Physics Condition No. 2. Yes

x. Personnel Dosimetry will be requested in accordance with Health Physics Condition No. 1. Assigned dosimetry monitors will be worn by all participating personnel.

Yes Whole Body [X] TLD Ring [X]

y. Are there any significant "NON-RADIATION" personnel hazards associated with this experiment; (Biological [Aids, etc.], Hazardous Chemicals [Toxic, Explosive, Corrosive etc.], Sharps, Lasers, Microwaves, electrical etc.) that may effect Health Physics personnel during routine inspections, surveys or waste handling procedures. If yes specify:

NO [X] YES [ ]

The Research Protocol described above is designed to ensure that occupational radiation exposures and the release of radioactive effluents to the environment will be "as low as reasonably achievable" (ALARA) during all phases of the research procedure.

Printed Name and Signature of Principal User: Diarmuid NICHOLSON, Ph.D.

Date: 15MAY94 Rank/GS grade GS12

Title: Director Kyle Metabolic Unit Laboratories

Telephone Number (202) 576-2171 576-1419

HEALTH PHYSICS RADIOACTIVE PROTOCOL

a. Principal User	b. Telephone Number	c. Authorization Number
Frances E. Carr, Ph.D.	202-576-1419	571
d. Coworkers	**e. Trainees**	**f. Technicians**

g. Radioisotope(s)	h. Physical/Chemical Form	i. Maximum Quantity per Experiment (mCi)
1. 32P α+γ dNTP 2. 14C 3. 35S 4. 3H	1. aqueous 2. Chloramphenicol, aqueous 3. aqueous 4. [illegible]	1. 0.2 mCi 2. 0.5 mCi 3. 0.2 mCi 4. 0.5 [illegible]

j. Title of Project

Regulation of Rat TSHβ Gene Expression

k. Beginning Date	l. Ending Date	m. Repetitive Study
July 1990	July 1992	Yes ☑ No ☐

n. Life Cycle of Radioisotope Utilized for Research Procedure (Use block/flow diagram to show what, how, where, how much isotope is used from receipt to disposal; emphasize major steps (incubate over night, run gel, autoradiography, etc.), including kinds and volumes of waste generated.)

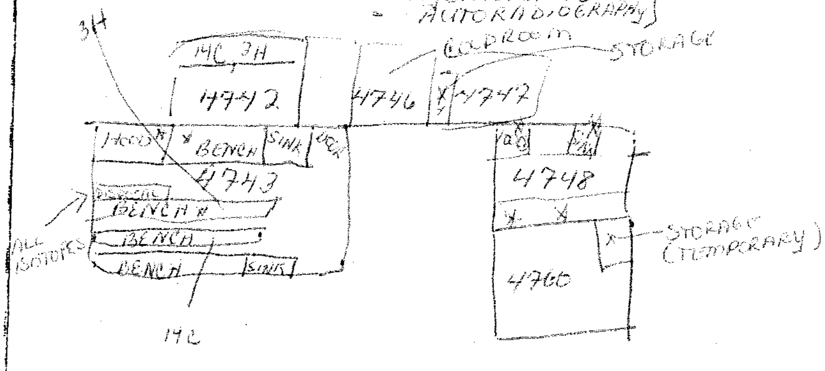
Rm 4747 - Isotope Freezer
Central Freezer

Rm 4743 - *Hood - Labelling 32P, 35S

*Bench - Sequencing
- Disposal
- Hybridizations
- Autoradiography
} 32P 35S

Rm 4746 Cold Room - Precipitation of isotope as necessary/experiment

Rm 4748 - In Vitro Translation
- Protein Analysis
4760 - Hybridizations



Isotope Disposal 4743 ← Isotope Storage 4746
Isotope Use

32P Sequencing - per experiment / 1-2 exp per wk
~ 0.3 mCi / 50 ml
Labelling DNA ~ 0.2 mCi / 500 ul
Hybridization ~ 0.1 mCi / 20 mls
DNA analysis ~ 0.1 mCi / 10 mls
} .6 mCi / 31 [illegible] aqueous

14C - Enzyme Assay ~ 0.05 mCi / 60 mls ethyl [illegible] / experiment / week

35S - In Vitro Translation,

o. Labeling and Transport of Radioactive Material: All radioactive solutions, tissues, animals and waste will be identified by proper labels. Transport of radioactive material between authorized work areas will be conducted in a manner that precludes the spread of contamination and inadvertent exposure of non-participating personnel.

WRAMC FORM 1644
1 Jan 91

p. Laboratory Animal Usage: None [X] If yes, complete following:

Species:
Disposition of animals: Room: Bldg:

q. Isotope Utilization Locations:

	(1)	(2)	(3)	(4)	(5)
Building	2				
Room	4745	4742	4746B	4748	4741
Maximum Amount (mCi)	32P 5mCi/daily 14C 0.1mCi/daily 35S 1mCi/daily	3H 0.5mCi/daily 14C 0.1mCi/daily	125I 5mCi 14C 0.1mCi/daily	60Co 35S	5mCi 32P

	Bldg	Room	Maximum Amt (mCi)
r. Maximum Amount in Possession (mCi)			
s. Isotope Storage Location(s)	2	4747	32P 20mCi 35S 10mCi 125I 10mCi 14C 15mCi 3H 10mCi
t. Waste Storage Location(s)	2	4743	" "
u. Animal/Tissue Storage Location	—	—	—

v. All radioactive waste will be transfered to the Health Physics Office in accordance with Health Physics Condition No. 4.

w. All room surveys will be conducted in accordance with Health Physics Condition No. 2.

x. Personnel Dosimetry will be requested in accordance with Health Physics Condition No. 1. Assigned dosimetry monitors will be worn by all participating personnel.

Whole Body [X] TLD Ring [X]

y. Are there any significant "NON-RADIATION" personnel hazards associated with this experiment; (Biological [Aids, etc.], Hazardous Chemicals [Toxic, Explosive, Corrosive etc.], Sharps, Lasers, Microwaves, electrical etc.) that may effect Health Physics personnel during routine inspections, surveys or waste handling procedures.

If yes specify: BIOLOGICAL HAZARDS - BACTERIAL CULTURE, HUMAN TISSUE - FELINE ORGANIC SOLVENTS EQUIPMENT IN USE IN LAB (UV, ULTRACENTRIFUGES) ALL LABELED APPROPRIATELY

NO [ ] YES [X]

The Research Protocol described above is designed to ensure that occupational radiation exposures and the release of radioactive effluents to the environment will be "as low as reasonably achievable" (ALARA) during all phases of the research procedure.

Printed Name and Signature of Principal User: Frances E. Carr, Ph.D.

Date: 6/21/91 Rank/GS grade GM-14

Title: Director, KMU Research Labs

Telephone Number 816-235-1612

DISPOSITION FORM

For use of this form, see AR 340-15; the proponent agency is TAGO.

REFERENCE OR OFFICE SYMBOL	SUBJECT
HSHL-HP	Research Protocol for Isotope Named in the Application for Use of Radioactive Material Authorization # 511 .

TO Health Physics Officer, WRAMC

FROM F.E. Cake, Ph.D., D. Kmiec Research Labs, WRAMC

DATE 3 February 1988

CMT 1

a. Principal User	Telephone Number	Authorization Number
Frances E. Cake, Ph.D.	576-3852	511

b. Investigator & Auth# (If different than (a.))	c. Trainee & Auth#	d. Technician & Auth#

e. Radioisotope	Physical/Chemical form	Maximum Quantity to be used per Experiment in millicuries (mCi)
1. ^{32}P α dATP 2 ^{32}P β dATP 3 HC Chloramphenicol 4 ^{35}S Methionine 5 ^{35}S dATP	1. aqueous 2 aqueous 3 Ethanol 4 ethanol 5 aqueous	1 and #5 - 0.2 mCi max per week 2. 0.1 mCi max per sequence per week 3 @ 0.5 mCi per experiment 4 0.3 mCi per experiment

f. Title of Project:	Maximum Quantity to be used for Entire Project (if known) in millicuries (mCi)
Regulation of Rat TSH β gene expression	Unknown

g. Beginning Date:	h. Ending Date:	i. Repetitive Study
July 1987	July 1992	(Yes) No

j. Life Cycle of Radioisotope Utilized for Research Procedure:
(Use block/flow diagram to show (where, how much, whose, etc.,) isotope travel from reciept to disposal.)

Rm 4748 - Isotope Storage
Central Freezer

Rm 4743 Hood - Labelling [.05 mCi] ^{32}P dATP
^{35}S dATP
Bench - Sequencing [.01 mCi]
- Disposal ^{35}S/^{32}P
- Hybridizations [.025 mCi]

Rm 4752 - ^{35}S-methionine - translations
0.5 mCi / experiment

Rm 4754 ^{14}C - CAM .05 mCi / exp.
^{14}C - Waste Disposal

Rm 4742 Cold Room - precipitation of isotope as necessary

4748 | 4748
4743 | 4742 Kmiec
4752 | 4754

k. Labelling and Transport of Radioactive Material

All radioactive solutions, tissues, animals and waste will be identified by proper label, in accordance with Health Physics Condition No. 4. Transport of radioactive material between authorized work areas and waste disposal sites will be conducted in a manner that precludes the spread of contamination and inadvertent exposure to non-participating personnel.

l. Laboratory Animal Usage		
Species	Bldg#	Room#
None		

m. Disposition of Animals

[X] Not Applicable

[ ] Animals will be sacrificed and carcasses will be disposed of as radioactive waste.

[ ] Other (Specify)

n. Isotope Utilization Locations	Location 1	Location 2	Location 3	Location 4
Building #	2	2	2	2
Room #	4746	4743	4754	4752
Max. Amt (mCi)	0.05 mCi	0.05 mCi - 0.1 mCi	0.05 mCi	0.05 mCi
	labelling	labelling/ Sequencing/hybridizing	in vitro assay	in vitro assay

o. Isotope Storage Location

Building # 2 Room # 4748 Max. Amt. (mCi) 2 mCi / Isotope

p. Isotope Waste Storage Locations

(1) Biological: Bldg# _____ Room# _____

(2) All other: Bldg# 2 Room# 4743 and 4754.

[X] All radioactive waste will be transfered to the Health Physics collection point, WRAMC (Bldg 2 (NMTF) - loading dock) (1330 to 1430) Wednesday of each week.

[ ] All radioactive waste will be transfered to the Health Physics collection point, WRAIR (Bldg 40 - Room B079) Open Monday, Wednesday, & Friday 1130 to 1230.

[ ] All radioactive waste will be transfered to the Health Physics collection point, WRAIR (Forest Glen Section) every Wednesday afternoon.

q. Radioactive Waste Disposal

All radioactive waste will be transfered to Health Physics Office in accordance with Health Physics Condition No. 4.

---

r. Room Survey

All room surveys will be conducted in accordance with Health Physics Condition No. 2.

---

s. Personnel Dosimetry

Whole Body [X] Wrist Badge [ ] TLD Ring [X]

will be requested in accordance with Health Physics Condition No. 1. Assigned dosimetry monitors will be worn by all participating personnel.

---

t. Are there any significant non-radiation personnel hazards associated with experiments; (Biological, Explosive, Toxic substances, High Intensity Optical sources, Microwaves, or Electrical) that would effect Health Physics personnel during there routine inspections of these areas.

[X] No

[ ] Yes(Please specify)

The Research Protocol enumerated above and on the previous pages is designed to ensure that occupational radiation exposures and release of radioactive effluents to the environment will be "as low as reasonably achievable" (ALARA) during all phases of the research procedure.

Signature Date 2-8-88

APPLICATION FOR AUTHORIZATION TO USE RADIOACTIVE MATERIAL -- NON-HUMAN USE

1. APPLICATION FOR: ☐ NEW AUTHORIZATION ☒ RENEWAL OF AUTHORIZATION NUMBER 511 ☐ AMENDMENT TO AUTHORIZATION NUMBER

2. APPLICANT'S NAME (Last, First, MI) (Principal User): CARR, FRANCES E. (DR.)

TELEPHONE NUMBER: 6-3852

3. APPLICANT'S MAILING ADDRESS (Include Organization): FASEB - Metabolism SVC, KMW WRAMC

(IF MORE SPACE IS NEEDED FOR ANY ITEM, USE ADDITIONAL PROPERLY KEYED PAGES.)

4. List all CO-WORKERS

BURMAN, KENNETH D. COL., MC
Duncan, William E. MAJ

5. List all TRAINEES

~~Cai, Wen Bin~~
~~SCHNEIDER, PAUL R CPT~~
~~Pelle, MARK CPT~~
~~KUSNER, JOANNE MAJ~~
~~Shakarjian, Michael PhD~~
Francis, Gary Dr.
Tillons, Ed Dr.

6. List all TECHNICIANS ~~Dionne Beale~~
ANDERSON, JEFFREY
ANSLEY, REYNOLDS 356
BARNES, SUSAN ~~Jared Wakeeyes~~
~~BUTLER, VINCENT~~ ~~Chappy Pelcar~~
DIUH, YING-YING Nicholson, D. E.
(KESLER) PHYLLIS Rhoom
~~KASSEM, LAURA C PFC~~
MAHRI, SABITA Burch, H. D.
LUKES, YVONNE Strachan, Susan SFC.
~~KEAD, ANN M~~ ~~Rooms, Phyllis~~
~~WITHERS, DENNIS~~
~~FLENG, J C (DR.)~~

7. LOCATIONS WHERE MATERIAL WILL BE USED: (Building and Associated Rooms)
BLDG 2 : ~~4743~~, ~~4752~~ 4746, ~~4754~~, 4760 4743 4742
~~BLDG 7~~ Carolyn Umstott Fisher 631, 625, 642

8. LOCATIONS WHERE MATERIAL WILL BE STORED: (Building and Associated Rooms)
~~BLDG~~ 2 Rm ~~4752~~ 4748, 4742

9. RADIOACTIVE WASTE DISPOSAL SINK IN ROOM:
BLDG 2 ~~4743~~, ~~4752~~, ~~4754~~ 4743

19 FEB 1988

This Application is given interim approval until the next meeting of the RCC MAY 198[illegible] which is scheduled for: .....

10. RADIOACTIVE MATERIAL DATA

A. RADIOSOTOPE	B. CHEMICAL AND/OR PHYSICAL FORM (Sealed or Unsealed)	C. POSSESSION LIMIT	D. USE
32P	dCTP (α) 10mCi 1ml (3000Ci/mmol)	5mCi	Nick-translation DNA Probes
32P	dATP (α) 10mCi/ml (600Ci/mmol)	10mCi	DNA Sequencing - Chemical degradation
32P	dATP (γ) 10mCi/ml > (7000Ci/mmol)	5mCi	Kinase labelling DNA
14C	Chloramphenicol	15mCi	In Vitro Enzyme Assay
35S	Methionine	5mCi	In vitro translation
35S	dATP	5mCi	DNA Sequencing
125I	NaI, steroids & Protein Hormones, HCG, Testesterone	10mCi	RIA protein Iodination + metabolic studies
H3	Steroids, Vitamin D, Metabolites	10mCi	RIA, dilution Analysis & chromatography

APPROVED BY

CERTIFICATE
(This item must be completed by applicant)

I certify that this application is prepared in conformity with WRAMC Regulations and that the information contained herein, including any supplements attached hereto, is true and correct to the best of my knowledge and belief.

07 JUN 1988

DATE

11. I ACKNOWLEDGE MY RESPONSIBILITIES AS *PRINCIPAL USER* AS DEFINED IN WRAMC REGULATIONS.	12. ADMINISTRATIVE APPROVAL:
6-3-88 Frances E Clow	6-7-88 Ken Burns
DATE (Signature of Principal User)	DATE (Signature of Chief of Svc, Dept, or Div.)

WRAMC RADIATION CONTROL COMMITTEE APPROVAL

APPROVED	APPROVED	AUTHORIZATION NO.:
Gerald M. Connock		511
HEALTH PHYSICS OFFICER, WRAMC	CHAIRPERSON SUBCOMMITTEE FOR NON-HUMAN USE: RADIATION CONTROL COMMITTEE, WRAMC	REVIEW DATE:
GERALD M. CONNOCK, MAJ, MS		May 91

WRAMC FORM 1662R (PREVIOUS EDITIONS ARE OBSOLETE) 1 FEB 79

(OVER)

3. The applicant's address should include organization, activity, building, room number, and reference or office symbol.

4. A "Co-Worker" is an individual who possesses adequate training and experience with radioactive material to qualify him as a "Principal User". He works under the direction of and is responsible to the "Principal User for the safe and proper use of the materials specified in the application. List all Co-Workers alphabetically by last name. Each Co-Worker should be identified as follows: Last name, first name, middle initial and grade. Attach a completed WRAMC Form 1643 for each Co-Worker if a current copy is not on file with the Health Physics Office.

5. A "Trainee" is an individual who works under the direct supervision of a Principal User or Co-Worker for the purpose of obtaining the necessary training and experience to qualify for either status. List all trainees alphabetically by last name. Each Trainee should be identified as follows: Last name, first name, middle initial and grade.

6. A "Technician" is an individual who works under the direct supervision of a Principal User or Co-Worker for the purpose of performing certain routine duties associated with use of materials specified in the application. He does not possess suitable training and experience to be classified as a Principal User or Co-Worker, and is not undergoing training that would qualify him to attain either status. List all Technicians alphabetically by last name. Each Technician should be identified as follows: Last name, first name, middle initial and grade.

7-9. Self explanatory.

10a. List radioisotopes by ascending mass number, i.e., the isotope with the smallest mass number is placed at the top of the column and the isotope with the greatest mass number is placed at the bottom of the column.

10b. In addition to the chemical form of the radioisotope indicate whether it is in solid or liquid or gaseous form and whether it is a sealed or unsealed source. In order for radioactive material to qualify as a "sealed source" the radioactive source must be sealed in an impervious container which has sufficient mechanical strength to prevent contact with and dispersion of the radioactive material under the conditions of use and wear for which is was designed.

10c. State the maximum millicurie amount of each chemical form of the radioisotope that must be kept in the inventory in order to satisfy mission requirements.

10b. State the intended use of each chemical form of the radioisotopes listed in Column 10a.

11-12. Self explanatory.

DATE: 2/5/88

Authorization Review Process
Branch Input

Auth # 511

	A	B	COMMENTS
1	X	DNB	pending signature
2	X	DNB	
3	X	DNB	
4	NA	[illegible]	
5	NA	[illegible]	
6	X	[illegible]	
7	X	[illegible]	
8	X	[illegible]	
9	NA	DNB	
10	NA	[illegible]	
11	NA	[illegible]	
12			
13			
14			
15			

Index of Numbers and Symbols used above:

(1) - Forms (WRAMC 1661R, 1662R, 1643) (Completed/typed)
(2) - Protocol (Required for: 3-H, 32-P, 125-I, 131-I, and all others deemed necessary by - amounts, activity, or use. (Reference NBS Handbook #92)
(3) - Isotopes (within limits for NRC License/personnel qualifications)
(4) - OPS Branch room pre-survey
(5) - OPS Branch room final survey
(6) - TS Branch instrumentation assignment
(7) - Training - WRAMC Form 538 (Completed by users annually)
(8) - Training - WRAMC Form 1643 (Training and Experience Form)
(9) - Fort Detrick - Auth#'s 541, 618, 619, 620, 621
(10) - TS Branch Bioassay
(11) - TS Branch Personnel dosimetry

(A) - (X) when complete, (O) when pending, and ( ) when pending completed
(B) - Initial of branch representative when complete or pending issues are resolved
(C) - Comments

WRAMC
Audit of Radioactive Material
(In accordance with AR 40-37 & 40-61)

Inspector: C. Collins Date: 5MAR91 Auth# 511

1. DA form 3862 [NO] (YES)
2. Within limits [NO] (YES)
3. Inventory Control Officer: Dr. Frances Carr
   Room: BLDG 2, Kyle Meta.
4. WRAMC Regulation 40-10 [NO] (YES)
5. WRAMC Authorization on hand [NO] (YES)
6. General Provisions - Terms & Conditions [NO] (YES)
7. LSC - Source No. & Location: Rm 4743 152-Eu-002 (temporarily) will be moved to 7E/O
8. WRAMC form 538 - current [NO] (YES) 152-Eu-001 Rm 4743
9. Sink log [NO] (YES)
10. Signs & Labels: OK
11. Personnel [Additions] [Deletions]
    Delete: Vincent Butler, Wen-Yi Cari, Laura Kaseem,
12. General Comments: Mark Peele

Principal User: Dr. F. Carr Authorized Representative:

F. Carr 5-5-91
Signature Date

HSHL-H-HP (385-11)

MAR 0 7 1991

MEMORANDUM FOR Endo-Metabolism, ATTN: Dr. Frances Carr

SUBJECT: Authorization # 511

PETER H. MYERS
LTC, MS
Health Physics Office

This Application is given interim approval until the next meeting of the RCC which is scheduled for: JUNE 91

APPROVED BY RCC

MAY 2 3 1991

DATE

DATE: 5 MAR 91

Authorization Review Process
Branch Input

Auth # 511

	A	B	COMMENTS
1	X	DRB	
2	NA	DRB	
3	NA	DRB	
4	NA	[illegible]	
5	NA	[illegible]	
6	NA	[illegible]	
7	NA	DRB	
8	NA	DRB	
9	NA	DRB	
10	NA	DRC	
11	NA	DRC	
12			
13			
14			
15			

Index of Numbers and Symbols used above:

(1) - Forms (WRAMC 1661R, 1662R, 1643) (Completed/typed)
(2) - Protocol (Required for: 3-H, 32-P, 125-I, 131-I, and all others deemed necessary by - amounts, activity, or use. (Reference NBS Handbook #92)
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(8) - Training - WRAMC Form 1643 (Training and Experience Form)
(9) - Fort Detrick - Auth#'s 541, 618, 619, 620, 621
(10) - TS Branch Bioassay
(11) - TS Branch Personnel dosimetry

(A) - (X) when complete, (O) when pending, and ( ) when pending completed
(B) - Initial of branch representative when complete or pending issues are resolved
(C) - Comments

HSHL-ME

13 NOV 90

MEMORANDUM FOR: Mr. Dave Burton, Health Physics
SUBJECT: Adding Room 4742

Please add room 4742 to authorization 511 for use with 3H and 14C. Thank you.

for FRANCES E. CARR, Ph.D.
Director, Kyle Metabolic Unit
Reserch Laboratories
Dept. Clinical Investigation

HSHL-H-HP (385-11h) 1st End

LTC Myers/ab/427-75107
NOV 2 9 1990

Health Physics Officer, WRAMC

FOR: Endo-Metabolism, ATTN: Dr. Frances Carr

This request was verified with Dr. Carr by phone on 13 Nov 90.

PETER H. MYERS
LTC, MS
Health Physics Officer

This Application is given interim approval until the next meeting of the RCC which is scheduled for: FEB 91

APPROVED BY RCC

MAR 0 6 1991

DATE

HSHL-H-HP (385-11a)

November 26, 1990

MEMORANDUM FOR: C, RMC Branch, Health Physics, WRAMC

SUBJECT: Pre-Use Room Survey

1. On 21 November 1990, Room 4742, Bldg 2 was pre-surveyed by SPC Ward to determine if the room was adequate for the use of authorization 511.

2. It was determined that this room is adequate for the intended use.

3. POC for this action is SSG Lewis, 427-5107.

ARTHUR G. SAMILJAN
MAJ, MS
C, OPs Br, HPO, WRAMC

DATE: 14 NOV 90

Authorization Review Process
Branch Input

Auth # 511

	A	B	COMMENTS
1	X	29NB	
2	NA	29NB	
3	NA	29NB	
4	X	AS	
5	NA	AS	
6	NA	DRC	
7	NA	29NB	
8	NA	29NB	
9	NA	29NB	
10	NA	DRC	
11	NA	DRC	
12			
13			
14			
15			

Index of Numbers and Symbols used above:

(1) - Forms (WRAMC 1661R, 1662R, 1643) (Completed/typed)
(2) - Protocol (Required for: 3-H, 32-P, 125-I, 131-I, and all others deemed necessary by - amounts, activity, or use. (Reference NBS Handbook #92)
(3) - Isotopes (within limits for NRC License/personnel qualifications)
(4) - OPS Branch room pre-survey
(5) - OPS Branch room final survey
(6) - TS Branch instrumentation assignment
(7) - Training - WRAMC Form 538 (Completed by users annually)
(8) - Training - WRAMC Form 1643 (Training and Experience Form)
(9) - Fort Detrick - Auth#'s 541, 618, 619, 620, 621
(10) - TS Branch Bioassay
(11) - TS Branch Personnel dosimetry

(A) - (X) when complete, (O) when pending, and ( ) when pending completed
(B) - Initial of branch representative when complete or pending issues are resolved
(C) - Comments

~~WRAMC~~
Audit of Radioactive Material
(In accordance with AR 40-37 & 40-61)

Inspector: C. Collins Date: 9/13/90 Audit #511

1. DA Form 3862 [NO] (YES)
2. Within Limits [NO] (YES)
3. Inventory Control Officer: Dr. F. Carr
   Room: 2/ Kyle metabolic
4. WRAMC Regulation 40-13 [NO] (YES)
5. WRAMC Authorization on hand [NO] (YES)
6. General Provisions - Terms & Conditions [NO] (YES)
7. LSC - Source No. & Location: 152-Eu-001 Rm 4743
8. WRAMC Form 538 - current [NO] (YES)
9. Sink log [NO] (YES)
10. Signs & Labels: OK
11. Personnel (Additions) (Deletions)
    Delete: ~~Wen Yi Cai~~, Michael Shakarjian
12. General Comments:

~~Principal~~ User: Dr. F Carr ~~Authorized Representative~~

Jesse L Martin
Signature Date

Dr. Berman said Ms. Cai will be staying as a part-time worker

HSHL-H-HP (385-11)

SEP 2 1 1990

MEMORANDUM FOR Endo-Metabolism, ATTN: Dr. Frances Carr

SUBJECT: Authorization 511

PETER H. MYERS
LTC, MS
Health Physics Office

This Application is given interim approval until the next meeting of the RCC which is scheduled for: NOV 90

APPROVED BY RCC

NOV 1 5 1990
DATE

DATE: 13 Sept 90

Authorization Review Process
Branch Input

Auth # 511

	A	B	COMMENTS
1	X	DRMB	
2	NA	DRMB	
3	NA	DRMB	
4	NA	[illegible]	
5	NA	[illegible]	
6	NA	[illegible]	
7	NA	DRMB	
8	NA	DRMB	
9	NA	DRMB	
10	NA	[illegible]	
11	X	[illegible]	
12			
13			
14			
15			

Index of Numbers and Symbols used above:

(1) - Forms (WRAMC 1661R, 1662R, 1643) (Completed/typed)
(2) - Protocol (Required for: 3-H, 32-P, 125-I, 131-I, and all others deemed necessary by - amounts, activity, or use. (Reference NBS Handbook #92)
(3) - Isotopes (within limits for NRC License/personnel qualifications)
(4) - OPS Branch room pre-survey
(5) - OPS Branch room final survey
(6) - TS Branch instrumentation assignment
(7) - Training - WRAMC Form 538 (Completed by users annually)
(8) - Training - WRAMC Form 1643 (Training and Experience Form)
(9) - Fort Detrick - Auth#'s 541, 618, 619, 620, 621
(10) - TS Branch Bioassay
(11) - TS Branch Personnel dosimetry

(A) - (X) when complete, (0) when pending, and ( ) when pending completed
(B) - Initial of branch representative when complete or pending issues are resolved
(C) - Comments

HSHL-ME

24 July 90

MEMORANDUM FOR Health Physics

SUBJECT Personnel of Auth 511

Please add Dr. Ed Illions to authorization #511 as a trainee. Since he will be working in the KMU 32 P laboratories, I request also a whole body and finger radiation badges. Thank you.

for FRANCES E. CARR, Ph.D
Director of Kyle Metabolic Unit
Research Laboratories
Dept. Clinical Investigation

HSHL-H-HP (385-11h) 1st End

LTC Myers/ab/427-5104

Health Physics Officer, WRAMC

SEP 1 1 1990

FOR Endo-Metabolism, ATTN: Dr. Frances Carr

PETER H. MYERS
LTC, MS
Health Physics Officer

This Application is given interim approval until the next meeting of the RCC which is scheduled for: NOV 90

APPROVED BY RCC

NOV 1 5 1990

DATE

DATE: 27 JULY 90

Authorization Review Process
Branch Input

Auth # 571

	A	B	COMMENTS
1	~~X~~	DMB	Signature P.M. (Dr. Berman signed for Dr Carr who is on maternity Leave
2	NA	DMB	
3	NA	DMB	
4	NA	DR	
5	NA	DR	
6	NA	DRC	
7	~~X~~	DMB	538
8	NA	DMB	
9	NA	DMB	
10	NA	DRC	
11	X	DRC	
12			
13			
14			
15			

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(9) - Fort Detrick - Auth#'s 541, 618, 619, 620, 621
(10) - TS Branch Bioassay
(11) - TS Branch Personnel dosimetry

(A) - (X) when complete, (O) when pending, and ( ) when pending completed
(B) - Initial of branch representative when complete or pending issues are resolved
(C) - Comments

HSHL-ME July 6, 1990

MEMORANDUM FOR Health Physics

SUBJECT: Personnel of Auth 511

This is to request confirmation that Dr. H. Burch, Dr Gary Francis, Spc Susan Strachan and Mrs. Phyllis Rhooms are included on Auth #511. All personnel have personal dosemetry badges and have been working in the laboratory for several months. Mrs. (Kessler) Rhooms has been with the KMU for many years. Thank you.

FRANCES E. CARR, Ph.D.
Director, Kyle Metabolic Unit
Research Laboratories
Dept. Clinical Investigation

HSHL-H-HP JUL 13 1990

MEMORANDUM FOR Endo-Metabolism, ATTN: Dr. Frances Carr

SUBJECT: Authorization ~~454~~ 511

PETER H. MYERS
LTC, MS
Health Physics Officer

This Application is given interim approval until the next meeting of the RCC which is scheduled for: Aug 90

APPROVED BY RCC

AUG 16 1990
DATE

DATE: 5 July 90

Authorization Review Process
Branch Input

Auth # 511

	A	B	COMMENTS
1	X	JPMB	Request to add personnel
2	NA	JPMB	
3	NA	JPMB	
4	NA		
5	NA		
6	X		
7	X	JPMB	
8	NA	JPMB	
9	NA	JPMB	
10	X		
11	X		
12			
13			
14			
15			

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(11) - TS Branch Personnel dosimetry

(A) - (X) when complete, (0) when pending, and ( ) when pending completed
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(C) - Comments

DISPOSITION FORM

For use of this form, see AR 340-15; the proponent agency is TAGO.

REFERENCE OR OFFICE SYMBOL	SUBJECT
F -HP	Expiration of WRAMC Radioactive Material Authorization

TO: COL Harvey Wray
Clin. Investigations
WRAMC

FROM: Health Physics Officer
WRAMC

DATE: 13 DEC 1989 CMT 1

Mr. Burton/acp/75104

1. WRAMC Radioactive Material Authorization No. 557 will expire in approximately ninety (90) days. If a properly completed application for renewal of the existing Authorization is received by this office thirty (30) days or more prior to the expiration date, the existing Authorization shall not expire until a final determination has been made on the renewal application.

2. If you desire to terminate your Authorization, please advise this office of your intent by placing a check mark (✓) in the appropriate box provided below. Sign the Principal User's signature block and return the original copy of the signed statement to this office.

3. Attached to this DF is an Authorization Renewal Packet containing all forms needed to renew your Authorization. All applications for renewal must include one (1) each of the following:

a. Completed copy of the application form
b. Updated Training and Experience form for each individual listed as Principal User or Co-Worker
c. A Research Protocol form (if enclosed)

All questions regarding this communication should be directed to the Chief, RMC Branch, Health Physics Office, WRAMC, Tel: 427-5104/5161.

David W. Burton

DAVID W. BURTON
DAC
C, Radioactive Material Branch

Encl

HSHL-HP
TO: Health Physics Office, WRAMC
ATTN: Chief, RMC Branch

FROM: C, DCI

DATE: 31 Jan 90 CMT 2

1. It is requested that WRAMC Radioactive Material Authorization No. 557 be cancelled.

2. Radioactive materials listed on the current Authorization will be:

____ Transferred to WRAMC Health Physics Office for disposal as radioactive waste

✓ Transferred to WRAMC Health Physics Office for reassignment to WRAMC Radioactive Material Authorization No. 511 (Dr. W. E. Dawson, Dr. D. E. Nicholson)

✓ I do not possess any radioactive materials and therefore no transfer procedures are required.

COL MD Auth. 511

H. Linton Wray, MD 31 Jan 1990
NAME/RANK DATE

H. Linton Wray MD

DA FORM AUG 80 2496 PREVIOUS EDITIONS WILL BE USED GPO : 1984 O - 455-151

HSHL-H-HP (385-11m)

MAY 3 0 1990

MEMORANDUM FOR COL Harvey Wrey, Clinical Investigations, WRAMC

SUBJECT: Authorizations 557 and 511

PETER H. MYERS
LTC, MS
Chief, Health Physics Office

This Application is given interim approval until the next meeting of the RCC which is scheduled for: AUG 90

APPROVED BY RCC

AUG 1 6 1990
DATE

WRAMC
Audit of Radioactive Material
(In accordance with AR 40-37 & 40-61)

Inspector: O. Burton Date: 26+30 Oct Auth# 511

1. DA form 3862 [NO] (YES)
2. Within limits [NO] (YES)
3. Inventory Control Officer: Jessie Martin
   Room: _____
4. WRAMC Regulation 40-10 [NO] (YES) delivered new copy
5. WRAMC Authorization on hand [NO] (YES)
6. General Provisions - Terms & Conditions [NO] (YES)
7. LSC - Source No. & Location: new counter to be installed
8. WRAMC form 538 - current [NO] (YES)
9. ~~Sink log [NO] (YES)~~
10. Signs & Labels: OK
11. Personnel (Additions) (Deletions)
    See Attached List
12. General Comments:
    Ann Reid Trans to AFIP

Principal User: Dr. Cash Authorized Representative:

[signature] 10/30/87
Signature Date

Number	Phone	Review Date
511	576-3852	05/30/91

Dept. of Endo-Metabolism
Bldg. 2, Rm. 4742, WRAMC

PRINCIPAL USERS BY AUTHORIZATION NUMER

Personnel		PU=PRINCIPAL USER CO=CO-WORKER TR=TRAINEE TK=TECHNICIAN	Authorization Number
Carr,	Frances PhD	pu	511
Anderson,	Jeff	tk	511
Barnes,	Susan	tk	511
Butler,	Vincent	tk	511
Ansley,	Reynolds, SSG	tk	511
Djuh,	Yin Ying	tk	511
Kaseem,	Laura L. PFC	tk	511
Lahiri,	Sabita	tk	511
Lukes,	Yvonne	tk	511
Burman,	Kenneth, COL	co	511
GONE -Whitehead,	Donna	tk	511
Peele,	Mark CPT	tr	511
Kesler,	Phyllis	tk	511
GONE -Reid,	Ann	tk	511
Umstott, (FISHER)	Carolyn	tk	511
GONE -Woldeyesus,	Jared	tk	511
GONE -Chappel,	Rebecca	tk	511
CAI, WEN-YE, MD		TR	
SHAKARJIAN, MICHAEL, PhD		TR	

ROOM LIST BY AUTHORIZATION

****

Bldg.	Room	Use	Store	Sink	Active
** AUTHORIZATION: 511					
2	4748	.F.	.T.	.F.	.T. ✓
2	4743	.T.	.F.	.T.	.T. ✓
2	4746	.T.	.F.	.F.	.T. ✓
2	4754 - CLOSED	.T.	.F.	.T.	.T.
2	4760	.T.	.F.	.F.	.T. ✓

Isotope	Limit	Form
C-14	15 mCi	unsealed - Steroids
P-32	20 mCi	dATP(gamma & alpha), dCTP(alpha)
S-35	10 mCi	dATP
I-125	10 mCi	NaI, LABELED STEROIDS & PROTEIN HORMONES, HCG, TESTOSTERONE
H-3	10 mCi	

HSHL-H-HP

1 NOV 1989

MEMORANDUM FOR Endo-Metabolism, ATTN: Dr. Carr, WRAMC

SUBJECT: Authorization 511

Application is given interim approval until the next meeting of the RCC which is scheduled for: Nov 89

PETER H. MYERS
LTC, MS
Health Physics Officer

APPROVED BY RCC

16 NOV 1989
DATE

DATE: 01 Nov 89

Authorization Review Process
Branch Input

Auth # 511

	A	B	COMMENTS
1	X	[illegible]	
2	NA	[illegible]	
3	X	[illegible]	
4	NA	[illegible]	
5	NA	[illegible]	
6	NA	[illegible]	
7	X	[illegible]	
8	NA	[illegible]	
9	NA	[illegible]	
10	X	[illegible]	
11	X	[illegible]	
12			
13			
14			
15			

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(11) - TS Branch Personnel dosimetry

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Page No. 1
09/19/89

TRAINING CARDS DUE

LAST NAME	FIRST NAME	IPRP DATE	TC DATE	TYPE	RD
** AUTHORIZATION: 511		DR FRANCES CARR			
Chappel	Rebecca		0000	0000	

Rebecca Chappel left WRHME August 23, 1989 and should no longer be included in my authorization. Thank you.

F. E. Carr, Ph.D. 511
Oct 3 1989

HSHL-H-HP

31 OCT 1989

MEMORANDUM FOR Endo-Metabolism, ATTN: Dr. Carr, WRAMC

SUBJECT: Authorization 511

Application is given interim approval until the next meeting of the RCC which is scheduled for: Nov 89

PETER H. MYERS
LTC, MS
Health Physics Officer

APPROVED BY RCC

16 NOV 1989

DATE

DATE: 20 Oct 89

Authorization Review Process
Branch Input

Auth #511

	A	B	COMMENTS
1	X	AA	
2	NA	JH	
3	NA	JH	
4	NA	DLC	
5	NA	DLC	
6	NA	AA	
7	X	AA	
8	NA	JH	
9	NA	JH	
10	NA	AA	
11	NA	AA	
12			
13			
14			
15			

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(10) - TS Branch Bioassay
(11) - TS Branch Personnel dosimetry

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(B) - Initial of branch representative when complete or pending issues are resolved
(C) - Comments

HSHL-ME

19 OCT 89

MEMORANDUM FOR: Health Physics

SUBJECT: Request Personal Dosimetry Monitor

Request personal Dosimetry Monitor for Dr. Wen Ye ~~Che~~. She should be included on authorization # 615 and 511. Thank you.

A Trainee

Frances, E. Carr, Ph.D.
Director, Kyle Metabolic Unit
Research Laboratories
Dept. of Clinical Investigation

HSHL-H-HP

1 NOV 1989

MEMORANDUM FOR Dept of Clin Invest, ATTN: Dr. Carr

SUBJECT: Authorization 615

This Application is given interim approval until the next meeting of the RCC which is scheduled for: Nov 89

PETER H. MYERS
LTC, MS
Health Physics Officer

WRAMC
Audit of Radioactive Material
(In accordance with AR 40-37 & 40-61)

Inspector: D. Burman Date: 15 Oct 04 Auth# 615

1. DA form 3862 [NO] (YES)
2. Within limits [NO] (YES)
3. Inventory Control Officer: J. Martin
   Room:
4. WRAMC Regulation 40-18 [NO] (YES)
5. WRAMC Authorization on hand [NO] (YES)
6. General Provisions - Terms & Conditions [NO] (YES)
7. LSC - Source No. & Location: 4268, 4743
8. WRAMC form 538 - current [NO] (YES)
9. Sink Log [NO] [YES] NA
10. Signs & Labels: OK
11. Personnel (Additions) [Deletions]
    Cai, Wen-Yi Thomas
12. General Comments: Send Blank 538's

Principal User: Dr Burman Authorized Representative:
D. Burman
Signature Date
15 Oct 04

HSHL-ME (10-1a)

24 July 1989

MEMORANDUM FOR: Chief, Health Physics, Attn: Mr. Burton, Forest Glen Annex, Silver Spring, Maryland 99703-5001

SUBJECT: Room Changes For Authorizations

1. The Endocrine Service has new rooms for the following personnel to be performing radio-isotope procedures. Please annotate the following to allow the authorizations to cover rooms 6Z60, 4747, and 4743.

a) Ms Yin-Ying Djuh is moving from 4747 to 6Z60.

b) Ms Yvonne Lukes is moving from 4752 to 4747. 615

c) Dr. Carr is moving from 4754 to 4743. 511

d) Ms. Phyllis Kesler is moving from 4743 to 6Z60.

e) A laboratory will be set up on Ward 7464 and the personnel to move there will be determined at a later date.

2. Any questions may be referred to this office at 576-1793.

KENNETH D. BURMAN, M.D.
COL, MC
Asst. Chief, Endocrine-Metabolic
Service and the Kyle Metabolic Unit

Carr, PhD Auth #511

3 1 OCT 1989

HSHL-H-HP

MEMORANDUM FOR Endo- Metabolism, ATTN: Dr. Carr, Dr. Burman, WRAMC

SUBJECT: Authorization 511 & 615

This Application is given interim approval until the next meeting of the RCC which is scheduled for: Nov 89

PETER H. MYERS
LTC, MS
Health Physics Officer

HSHL-ME 29 June 89

MEMORANDUM FOR: Health Physics

SUBJECT: Add Rebecca Chappel to Authorization #511

Please add Rebecca Chappel to my authorization #511 as a technician. Enclosed is her isotope experience and training. Please advise me/her as to the next radiation safety course. As she will be working with and around 32p-ATP for labelling and DNA sequencing, I would like to request a dosimeter and ring for her as soon as possible. I have also requested a dosimeter for Sabita Lahiri which she has not yet received. Your attention in these requests would be greatly appreciated.

Frances E. Carr, Ph.D.
Director, Kyle Metabolic Unit
Research Laboratories
Dept. of Clinical Investigation

HSHL-H-HP

2 AUG 1989

MEMORANDUM FOR Dept of Clinical Investigation

SUBJECT: Authorization 511

This Application is given interim approval until the next meeting of the RCC which is scheduled for: September 1989

APPROVED BY

RCC

6 SEP 1989

DATE

Gerald M. Connock
GERALD M. CONNOCK
MAJ, MS
Health Physics Officer

DATE: 6 July 89

Authorization Review Process
Branch Input

Auth # 511

	A	B	COMMENTS
1	X	DWB	
2	NA	DWB	
3	NA	DWB	
4	NA	~~AA~~	
5	NA	~~AA~~	
6	NA	~~AA~~	
7	X	~~AA~~	
8	NA	DWB	
9	NA	DWB	
10	NA	~~AA~~	
11	X	~~AA~~	
12			
13			
14			
15			

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(10) - TS Branch Bioassay
(11) - TS Branch Personnel dosimetry

(A) - (X) when complete, (O) when pending, and ( ) when pending completed
(B) - Initial of branch representative when complete or pending issues are resolved
(C) - Comments

HSHL-HP

MEMORANDUM FOR Endo-Metabolism, ATTN: Dr. Carr, WRAMC

SUBJECT: Authorization 511

Gerald M. Connock

GERALD M. CONNOCK
MAJ, MS
Health Physics Officer

This Application is given interim approval until the next meeting of the RCC which is scheduled for: MAY 1989

APPROVED BY RCC

MAY 23 1989

DATE

WRAMC
Audit of Radioactive Material
(In accordance with AR 40-37 & 40-61)

Inspector: D. Burton Date: 4 May 89 Auth# 51

1. DA form 3862 [NO] (YES)
2. Within limits [NO] (YES)
3. Inventory Control Officer: Jesse Martin
   Room:
4. WRAMC Regulation 40-10 [NO] (YES)
5. WRAMC Authorization on hand [NO] (YES)
6. General Provisions - Terms & Conditions [NO] (YES)
7. LSC - Source No. & Location: Exempt
8. WRAMC form 538 - current [NO] (YES)
9. Sink log [NO] (YES) OK
10. Signs & Labels: OK
11. Personnel (Additions) [Deletions] TK
    Carolyn Winstott (Jared ~~Wohlgemuth~~ Wohlgemuth
12. General Comments:

Principal User: [signature] Authorized Representative:
David W. Burton 4 May 89
Signature Date

This Application is given [illegible] until the [illegible] RCC which [illegible] for: [illegible]

DATE: 5 MAY 89

Authorization Review Process
Branch Input

Auth # 511

	A	B	COMMENTS
1	X	DWB	
2	NA	DWB	
3	NA	DWB	
4	NA	~~AA~~	
5	NA	~~AA~~	
6	NA	LB	
7	NA	LB	
8	NA	DWB	
9	NA	DWB	
10	~~NA~~ X	LB	
11	NA	LB	
12			
13			
14			
15			

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(C) - Comments

WRAMC
Audit of Radioactive Material
(In accordance with AR 40-37 & 40-61)

Inspector: Chiquita Collins **Date:** 10/25/88 **Auth#** 511

1. DA form 3862 [NO] (YES)
2. Within limits [NO] (YES)
3. Inventory Control Officer: Dr. Frances Carr
   Room: Bldg 2 4747
4. WRAMC Regulation 40-10 [NO] (YES)
5. WRAMC Authorization on hand [NO] (YES)
6. General Provisions - Terms & Conditions [NO] (YES)
7. LSC - Source No. & Location: Rm 4754 Tm Analytic (no number)
8. WRAMC form 538 - current (NO) [YES]
9. Sink log [NO] (YES)
10. Signs & Labels: OK
11. Personnel [Additions] [Deletions]
    Delete: Jonathan Kushner, Paul Schaudies, Yuen Chu Tseng, Dionne Beale
12. **General Comments:** NEN is not listing the correct AUTH

Principal User: F Carr **Authorized Representative:**

F Carr 10-25-88
Signature **Date**

HSHL-HP
SUBJECT: Authorization 511

TO Endo-Meta
Dr. Carr

FROM Health Physics
WRAMC

DATE NOV 07 1988 CMT 2
Mr. Burton/pdc/75104

This Application is given interim approval until the next meeting of the RCC which is scheduled for: NOV 22 1988

Gerald M. Connock

GERALD M. CONNOCK
MAJ, MS
Health Physics Officer

APPROVED BY
RCC NOV 22 1988
DATE

DATE: 27 Oct 88

Authorization Review Process
Branch Input

Auth # 511

	A	B	COMMENTS
1	X	DWB	
2	NA	DWB	
3	NA	DWB	
4	NA	AA	
5	NA	AA	
6	NA	JM	
7	X	AA	
8	NA	DWB	
9	NA	DWB	
10	NA	JM	
11	NA	JM	
12			
13			
14			
15			

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DISPOSITION FORM

For use of this form, see AR 340-15; the proponent agency is TAGO.

REFERENCE OR OFFICE SYMBOL	SUBJECT
HSHL-ME	Personnel Dosimetry

TO Health Physics

FROM Dr. F. E. Carr
D, KMU Research Labs

DATE 5 July 1988
Dr. Carr/es/1419

CMT 1

1. Request additional information as to necessary precautions and safety procedures during [redacted]

2. Please add Ms. Dionne Beale, a summer student, to authorization 511. She will not be working directly with any isotopes, but is working in rooms where all approved isotopes are in use.

PERSONAL INFORMATION WAS REMOVED BY NRC. NO COPY OF THIS INFORMATION WAS RETAINED BY THE NRC.

Elaine Stoops
for Frances E. Carr, Ph.D.
Director, Kyle Metabolic Unit
Research Laboratories
Dept. of Clinical Investigation

HSHL-HP

TO Dr. Carr
D, KUM Research Labs

FROM Health Physics Office
WRAMC

DATE 28 JUL 1988
Mr. Burton/pdc/75104

CMT 2

This Application is given interim approval until the next meeting of the ROC which is scheduled for: AUG 1988

Gerald M. Connock
GERALD M. CONNOCK
MAJ, MS
Health Physics Officer

APPROVED BY ROC

24 AUG 1988
DATE

DA FORM AUG 80 2496

PREVIOUS EDITIONS WILL BE USED

GPO : 1987 O - 172-428

DATE: 20 JUL 88

Authorization Review Process
Branch Input

Auth # 511

	A	B	COMMENTS
1	X	DMB	
2	NA	DMB	
3	NA	DMB	
4	NA	[illegible]	
5	NA	[illegible]	
6	NA	[illegible]	
7	X	[illegible]	
8	NA	[illegible]	
9	NA	DMB	
10	NA	[illegible]	
11	NA	[illegible]	
12			
13			
14			
15			

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AUTHORIZATION No. 511 DATE: 16 Mar 87

ADDENDUM TO AUTHORIZATION

Bldg #2, Room(s) 4742 contain a designated Radioactive Iodine Iodination Box.

The following personnel are authorized to iodinate under my control/direction in the area designated above:

NAME/RANK	ACTIVITY	AUTH #
Paul Schneider CPT	DCI	443
Yvonne Lee	KMCI	511
Yen-yung Hsia	"	"
P. Kelly	"	"
Sarita Lakeri	"	"
Mary Pierce	"	"
Jen Kirsten	"	"
Frances Carr	"	"
Dana Whitten	"	"
Laura Kasheem	SP4	"
James Baker	MAT DCI	443
Jeff Anderson	DCI	511

Kenneth D. Burman, MD.
COL., MC
Asst. Chief, Endocrine-Metabolic Svc., 7D
Walter Reed Army Medical Center
Washington, D.C. 20307-5001

3/23/87

Administrative (Signature) Approval

Principal User (Signature)
Auth# 511

DISPOSITION FORM

For use of this form, see AR 340-15; the proponent agency is TAGO.

REFERENCE OR OFFICE SYMBOL	SUBJECT
HSHL-HP	Research Protocol for Isotope Named in the Application for Use of Radioactive Material Authorization # 511 - renewal - added

TO: Health Physics Officer, WRAMC

FROM:

DATE: 24 FEB 1988

CMT 1

a. Principal User	Telephone Number	Authorization Number
FRANCES E. CARR, Ph.D	576-3852	511

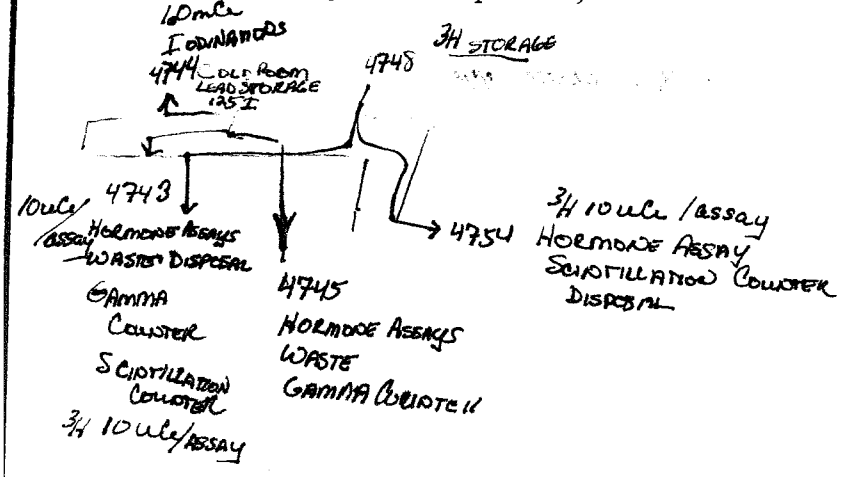
b. Investigator & Auth# (If different than (a.))	c. Trainee & Auth#	d. Technician & Auth#
Same	As listed under 511	As listed under 511

e. Radioisotope	Physical/Chemical form	Maximum Quantity to be used per Experiment in millicuries (mCi)
3H 125I	aqueous / STEROIDS / VITAMIN D NaI, STEROIDS, PROTEIN HORMONES	10 uCi

f. Title of Project:	Maximum Quantity to be used for Entire Project (if known) in millicuries (mCi)
Hormone Assays	UNKNOWN

g. Beginning Date:	h. Ending Date:	i. Repetitive Study
		Yes No

j. Life Cycle of Radioisotope Utilized for Research Procedure:
(Use block/flow diagram to show (where, how much, whose, etc.,) isotope travel from reciept to disposal.)



DA FORM AUG 80 2496 PREVIOUS EDITIONS WILL BE USED

☆U.S. GOVERNMENT PRINTING OFFICE: 1982-372-711

q. Radioactive Waste Disposal

All radioactive waste will be transfered to Health Physics Office in accordance with Health Physics Condition No. 4.

---

r. Room Survey

All room surveys will be conducted in accordance with Health Physics Condition No. 2.

---

s. Personnel Dosimetry

Whole Body [X] Wrist Badge [ ] TLD Ring [ ]

will be requested in accordance with Health Physics Condition No. 1. Assigned dosimetry monitors will be worn by all participating personnel.

---

t. Are there any significant non-radiation personnel hazards associated with experiments; [redacted] (Biological, Explosive, Toxic substances, High Intensity Optical sources, Microwaves, or Electrical) that would effect Health Physics personnel during there routine inspections of these areas.

[X] No

[ ] Yes(Please specify)

The Research Protocol enumerated above and on the previous pages is designed to ensure that occupational radiation exposures and release of radioactive effluents to the environment will be "as low as reasonably achievable" (ALARA) during all phases of the research procedure.

Signature Date 24 Feb 88

DISPOSITION FORM

For use of this form, see AR 340-15; the proponent agency is TAGO.

REFERENCE OR OFFICE SYMBOL	SUBJECT
HSHL-HP	Research Protocol for Isotope Named in the Application for Use of Radioactive Material Authorization # 511

TO: Health Physics Officer, WRAMC

FROM: JOSEPH BRUTON, Ph.D., KMU Laboratory, DCI, WRAMC

DATE: 3/20/81

CMT 1

a. Principal User	Telephone Number	Authorization Number
Dr. Joseph Bruton	576-3852	511

b. Investigator & Auth# (If different than (a.))	c. Trainee & Auth#	d. Technician & Auth#
Ms Yvonne Lukes -511	Mr. Jeff Anderson-511	

e. Radioisotope	Physical/Chemical form	Maximum Quantity to be used per Experiment in millicuries (mCi)
I-125	Protein Hormones LH, FSH, TSH	0.5MCi

f. Title of Project:	Maximum Quantity to be used for Entire Project(if known) in millicuries(mCi)
Metabolism of Protein Hormones and Quantitation of Protein hormones in blood.	1.0 MCi

g. Beginning Date:	h. Ending Date:	i. Repetitive Study
March 1985	Indefinite	Yes X No

j. Life Cycle of Radioisotope Utilized for Research Procedure:
(Use block/flow diagram to show (where, how much, whose, etc.,) isotope travel from reciept to disposal.)

Isotope obtained from supplier as NaI^{125} in NaOH(5MCi) . The protein hormone desired is placed in buffer solution and iodination takes place inside of iodinationation box (located in hood). A volume of NaI^{125} (0.5MCi) is allowed to react with the hormone. This reaction is terminate with sodium bisulfite and the entire volume is passed thru a column. The effluent is collected as waste. The hormone with I^{125} attached is collected on the column. The iodinated protein is eluted with an appropriate solvent and stored for later use. The iodinated hormone is used in a RIA procedure. In this procedure two fractions are seperated, bounded fraction and free fraction. One is placed in the conter for radioactivity counts. The other

k. Labelling and Transport of Radioactive Material

All radioactive solutions, tissues, animals and waste will be identified by proper label, in accordance with Health Physics Condition No. 4. Transport of radioactive material between authorized work areas and waste disposal sites will be conducted in a manner that precludes the spread of contamination and inadvertent exposure to non-participating personnel.

l. Laboratory Animal Usage		
Species Rats	Bldg# 40 & 7	Room#

m. Disposition of Animals

[ ] Not Applicable

[X] Animals will be sacrificed and carcasses will be disposed of as radioactive waste.

[ ] Other (Specify)

n. Isotope Utilization Locations

	Location 1	Location 2	Location 3	Location 4
Building #	2	2	2	
Room #	4742	4752	4748	
Max. Amt (mCi)	5MCi	0.1MCi	0.1MCi	

o. Isotope Storage Location

Building # 2 Room # 4742 Max. Amt. (mCi) 5

p. Isotope Waste Storage Locations

(1) Biological: Bldg# 2 Room# 4742

(2) All other: Bldg# 2 Room# 4752,4743

[X] All radioactive waste will be transfered to the Health Physics collection point, WRAMC (Bldg 2 (NMTF) - loading dock)(1330 to 1430) Wednesday of each week.

[ ] All radioactive waste will be transfered to the Health Physics collection point, WRAIR (Bldg 40 - Room B079) Open Monday, Wednesday, & Friday 1030 to 1130.

[ ] All radioactive waste will be transfered to the Health Physics collection point, WRAIR (Forest Glen Section) every Wednesday afternoon.

q. Radioactive Waste Disposal

All radioactive waste will be transfered to Health Physics Office in accordance with Health Physics Condition No. 4.

---

r. Room Survey

All room surveys will be conducted in accordance with Health Physics Condition No. 2.

---

s. Personnel Dosimetry N/A

Whole Body ☐ Wrist Badge ☐ TLD Ring ☐

will be requested in accordance with Health Physics Condition No. 1. Assigned dosimetry monitors will be worn by all participating personnel.

---

t. Are there any significant non-radiation personnel hazards associated with experiments; (Biological, Explosive, Toxic substances, High Intensity Optical sources, Microwaves, or Electrical) that would effect Health Physics personnel during there routine inspections of these areas.

☒ No

☐ Yes(Please specify)

The Research Protocol enumerated above and on the previous pages is designed to ensure that occupational radiation exposures and release of radioactive effluents to the environment will be "as low as reasonably achievable" (ALARA) during all phases of the research procedure.

Joseph Bruton 4/2/85

Signature Date

DISPOSITION FORM

For use of this form, see AR 340-15, the proponent agency is TAGCEN.

REFERENCE OR OFFICE SYMBOL	SUBJECT
HSWP-QHP	Research Protocol for Isotope named in the Application for Use of Radioactive Material Authorization # 511

TO	FROM	DATE	CMT 1
Health Physics Officer WRAMC		10/28/82	

a. Principal User:	Telephone Number	Authorization No.
Dr Joseph Bruton	576-3852	511

b. Investigator & Auth #	c. Trainee & Auth #	d. Technician & Auth #
Dr Judith Beach - 511 Ms Yvonne Lukes - 511	Mr David Miles - 511	Mr. Jeff Anderson 511

e. Radioisotope	Physical/Chemical form	Maximum Quantity per Experiment (mCi)
I^{125}	Protein Hormones LH, FSH, TSH	0.5 mCi

f. Title of Project:	Maximum Quantity for Entire Project (mCi)
Metabolism of Protein hormones	1.0 mCi

g. Beginning Date:	h. Ending Date:	i. Repetitive Study
Oct 1982	Indefinite	[X] Yes [ ] No

j. Life cycle of Radioisotope utilized for Research Procedure:

Isotope obtained from supplier as NaI^{125} in NaOH. (5mCi). The protein hormone (LH, FSH or TSH) desired is placed in buffer solution and iodination takes place inside appropriate Iodination box. A volume of NaI^{125} to give a maximum of 0.5 mCi is allowed to react with the hormone. This solution is stop with sodium bisulfite and the entire volume passed thru a 1X 10CM Column. The effluent is collected as waste. The hormone with I^{125} attached is collected on the column and further eluted with appropriate solvent. This is collected and used in the assay of the hormone. The Assay is carried out in 12x 75 mm tubes. Bound material seperate from unbound using dextran-Charcoal or second antibody.

DA FORM 1 FEB 62 2496 REPLACES DD FORM 96, WHICH IS OBSOLETE.

k. Labelling and Transport of Radioactive Material

All radioactive solutions, tissues, animals and waste will be identifie by proper label, in accordance with Health Physics Memo #3, #5, & #8. Transport of radioactive material between authorized work areas and waste disposal sites will be conducted in a manner that precludes the spread of contamination and inadvertent exposure to non-participating personnel.

l. Laboratory Animal Usage	
Species: RAT	Bldg # 7 Room #

m. Disposition of Animals

- ☐ Not Applicable
- ☒ Animals will be sacrificed and carcasses will be disposed of as radioactive waste
- ☐ Other (Specify)

n. Isotope Utilization Location

	Loc. #1	Loc. #2	Loc. #3	Loc. #4	Loc. #5
Bldg	~~#~~ 2	#2	#2	#2	
Room	4742	4754	4752		
Maximum Amt (mCi)	5mCi	0.01mCi	0.01mCi		

o. Isotope Storage Location

Bldg	Room	Maximum Amt (mCi)
2	4742	5mCi

p. Isotope Waste Storage Location

(1) Biological: Bldg # Room #

(2) All other: Bldg # 2 Room # 4754

☒ All radioactive waste will be transfered to the Health Physics collection point, WRAMC(Bldg 2 NMTF-Loading Dock)(1330 to 1430) of each week.

☐ All radioactive waste will be transfered to the Health Physics collection point, WRAIR (Room B079) Open everyday 1030 to 1130.

☐ All radioactive waste will be transfered to the Health Physics collection vehicle,WRAIR(Forest Glen Section) on Thursday (1330 to 1430) every other week.

---

q. Radioactive Waste Disposal

All radioactive waste will be transfered to Health Physics Office in accordance with Health Physics Memo # 3, Memo # 8, and SOP # 1-11.

---

r. Room Survey

All room surveys will be conducted in accordance with Health Physics Memo #12.

---

s. Personnel Dosimetry

Whole Body ☐ Wrist Badge ☐ TLD Ring ☐

will be requested in accordance with Health Physics SOP #1-5. Assigned dosimetry monitors will be worn by all participating personnel.

---

t. Are there any significant non-radiation personnel hazards associated with experiments (Biological, Explosive, Toxic substances, High Intensity Optical sources, Microwave, or Electrical)?

☒ No

☐ Yes(Specify)

The research protocol enumerated above is designed to ensure that occupational radiation exposures and release of radioactive effluents to the environment will be "as low as reasonably achievable" (ALARA) during all phases of the research procedures.

Joseph Burton
Signature

DISPOSITION FORM

For use of this form, see AR 340-15, the proponent agency is TAGCEN.

REFERENCE OR OFFICE SYMBOL	SUBJECT
HSWP-QHP	Research Protocol for Isotope named in the Application for Use of Radioactive Material Authorization # 511

TO	FROM	DATE	CMT 1
Health Physics Officer WRAMC	Jon Bruton, Ph. D. Judith E. Beach, Ph. D. Jeff Anderson	6-22-81	

a. Principal User:	Telephone Number	Authorization No.
Jon Bruton, Ph. D.	576-3852/3857	511

b. Investigator & Auth #	c. Trainee & Auth #	d. Technician & Auth #
Judith E. Beach, Ph. D.;511		Jeff Anderson ; 511

e. Radioisotope	Physical/Chemical form	Maximum Quantity per Experiment(mCi)
I^{125}	rat NaI; prolactin, LH,FSH	0.5mCi

f. Title of Project:	Maximum Quantity for Entire Project (mCi)
In vivo and in vitro secretion of PRL in the rat.	15 mCi

g. Beginning Date:	h. Ending Date:	i. Repetitive Study
7-1-81	8-30-83	[X] Yes [ ] No

j. Life cycle of Radioisotope utilized for Research Procedure:

half life of I^{125} is 60 days; discarded after 1 month

Receive NaI^{125}, iodinate protein (LH,FSH, prolactin) with I^{125} (0.5mC) with Chloramine T procedure. Purify protein on Sephadex G75 column. Discard residue NaI^{125} according to WRAMC procedures. Purified protein (about 0.1 mC) used in RIA assay of LH, FSH or prolactin and tubes counted in gamma counter and discarded. Unused purified (if any) protein discarded according to regulations after 1 month.

DA FORM 1 FEB 62 2496 REPLACES DD FORM 96, WHICH IS OBSOLETE.

k. Labelling and Transport of Radioactive Material

All radioactive solutions, tissues, animals and waste will be identifie by proper label, in accordance with Health Physics Memo #3, #5, & #8. Transport of radioactive material between authorized work areas and waste disposal sites will be conducted in a manner that precludes the spread of contamination and inadvertent exposure to non-participating personnel.

l. Laboratory Animal Usage		
Species	Bldg #	Room #
rat	WRAIR	no radioactive materials involved with live animals

m. Disposition of Animals

☐ Not Applicable

☐ Animals will be sacrificed and carcasses will be disposed of as radioactive waste

☒ Other (Specify) animals will not be administered any radioactive substance

n. Isotope Utilization Location					
	Loc. #1	Loc. #2	Loc. #3	Loc. #4	Loc. #5
Bldg	2	2	2		
Room	4754	4743	4742		
Maximum Amt (mCi)	0.01 mCi	0.1mCi	0.5mCi		

o. Isotope Storage Location

Bldg	Room	Maximum Amt (mCi)
2	4742	0.3mCi

p. Isotope Waste Storage Location

(1) Biological: Bldg # 2 Room # 4743,4754 weekly prior to transfer (see below)

(2) All other: Bldg # Room #

[XX] All radioactive waste will be transfered to the Health Physics collection point, WRAMC (Bldg 2 NMTF-Loading Dock) (1330 to 1430) of each week.

[ ] All radioactive waste will be transfered to the Health Physics collection point, WRAIR (Room B079) Open everyday 1030 to 1130.

[ ] All radioactive waste will be transfered to the Health Physics collection vehicle, WRAIR (Forest Glen Section) on Thursday (1330 to 1430) every other week.

---

q. Radioactive Waste Disposal

All radioactive waste will be transfered to Health Physics Office in accordance with Health Physics Memo # 3, Memo # 8, and SOP # 1-11.

---

r. Room Survey

All room surveys will be conducted in accordance with Health Physics Memo #12.

---

s. Personnel Dosimetry

Whole Body [X] Wrist Badge [ ] TLD Ring [ ]

will be requested in accordance with Health Physics SOP #1-5. Assigned dosimetry monitors will be worn by all participating personnel.

---

t. Are there any significant non-radiation personnel hazards associated with experiments (Biological, Explosive, Toxic substances, High Intensity Optical sources, Microwave, or Electrical)?

[X] No

[ ] Yes (Specify)

The research protocol enumerated above is designed to ensure that occupational radiation exposures and release of radioactive effluents to the environment will be "as low as reasonably achievable" (ALARA) during all phases of the research procedures.

Joseph Britton Ph.D.

Signature

Date: [illegible]

Authorization Review Process
Branch Input

Auth# 511 (R)

	A	B	Comments
1	X	[illegible]	
2	X	[illegible]	
3	X	[illegible]	
4	X	[illegible]	
5			
6	X	[illegible]	
7			
8			
9			
10	X	[illegible]	
11	X	[illegible]	
12			
13			
14			
15			

Index of Numbers and Symbols used above:

(1) - Forms(WRAMC 1661R, 1662R, 1643)(Completed/typed)
(2) - Protocol(Required for; 3-H, 32-P, 125-I, 131-I, and all others deemed necessary by amounts, activity, or use. (Reference NBS Handbook #92))
(3) - Isotopes(within limits for NRC license/personnel qualifications)
(4) - OPS Branch room pre-survey
(5) - OPS Branch room final survey
(6) - TS Branch instrumentation assignment
(7) - Training - WRAMC form 538(Completed by users annually)
(8) - Training - WRAMC form 1645(Training and Experience form)
(9) - Fort Detrick - Auth#'s 541, 618, 619, 620, 621
(10) - TS Branch Bioassay
(11) - TS Branch Personnel dosimetry

(A) - (X) when complete, (O) when pending, and (N) when pending completed
(B) - Initial of branch when complete or pending completed
(C) - Comments

DISPOSITION FORM

For use of this form, see AR 340-15; the proponent agency is TAGO.

REFERENCE OR OFFICE SYMBOL	SUBJECT
HSHL-HP	Research Protocol for Isotope Named in the Application for Use of Radioactive Material Authorization # NEW 511

TO: Health Physics Officer, WRAMC

FROM: F. E. Carr, Ph.D., D, KMU Research Lab, WRAMC

DATE: 8 June 1987

CMT 1

a. Principal User	Telephone Number	Authorization Number
Frances E. Carr, Ph.D.	576-3852	NEW 511

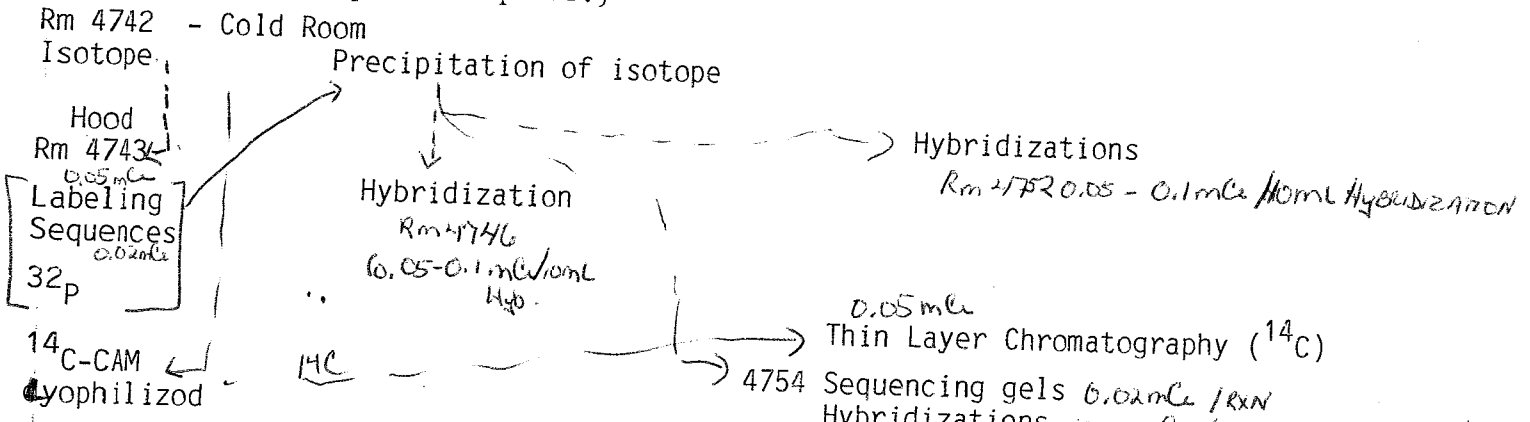
b. Investigator & Auth# (If different than (a.))	c. Trainee & Auth#	d. Technician & Auth#

e. Radioisotope	Physical/Chemical form	Maximum Quantity to be used per Experiment in millicuries (mCi)
1. ^{32}P α dATP	1. aqueous	1. 0.2mCi max per week
2. ^{32}P γ dATP	2. aqueous	2. 0.1mCi max per sequen. per wk
3. ^{14}C Chloramphenicol	3. ethanol	3. 0.5mCi per experiment

f. Title of Project:	Maximum Quantity to be used for Entire Project (if known) in millicuries (mCi)
Regulation of Rat TSH Beta Gene Expression	Unknown

g. Beginning Date:	h. Ending Date:	i. Repetitive Study -
July 1987	July 1992	Yes / No

j. Life Cycle of Radioisotope Utilized for Research Procedure:
(Use block/flow diagram to show (where, how much, whose, etc.,) isotope travel from reciept to disposal.)



DA FORM AUG 84 2496

PREVIOUS EDITIONS WILL BE USED

U.S. GOVERNMENT PRINTING OFFICE: 1982-372

k. Labelling and Transport of Radioactive Material

All radioactive solutions, tissues, animals and waste will be identified by proper label, in accordance with Health Physics Condition No. 4. Transport of radioactive material between authorized work areas and waste disposal sites will be conducted in a manner that precludes the spread of contamination and inadvertent exposure to non-participating personnel.

l. Laboratory Animal Usage	Bldg#	Room#
Species None		

m. Disposition of Animals

[X] Not Applicable

[ ] Animals will be sacrificed and carcasses will be disposed of as radioactive waste.

[ ] Other (Specify)

n. Isotope Utilization Locations	Location 1	Location 2	Location 3	Location 4
Building #	2	2	2	2
Room #	4746	4743	4754	4758
Max. Amt (mCi)	Cold Room 0.05 mCi labeling	0.05 mCi labeling/ sequencing	0.05 mCi sequencing	0.05 mCi hybridizati

o. Isotope Storage Location

Building # 2 Room # 4742 Max. Amt. (mCi) 2mCi-all isotopes

p. Isotope Waste Storage Locations

(1) Biological: Bldg# _____ Room# _____

(2) All other: Bldg# 2 Room# 4743

[X] All radioactive waste will be transfered to the Health Physics collection point, WRAMC (Bldg 2 (NMTF) - loading dock)(1330 to 1430) Wednesday of each week.

[ ] All radioactive waste will be transfered to the Health Physics collection point, WRAIR (Bldg 40 - Room B079) Open Monday, Wednesday, & Friday 1030 to 1130.

[ ] All radioactive waste will be transfered to the Health Physics collection point, WRAIR (Forest Glen Section) every Wednesday afternoon.

q. Radioactive Waste Disposal

All radioactive waste will be transfered to Health Physics Office in accordance with Health Physics Condition No. 4.

---

r. Room Survey

All room surveys will be conducted in accordance with Health Physics Condition No. 2.

---

s. Personnel Dosimetry

Whole Body [X] Wrist Badge [ ] TLD Ring [ ]

will be requested in accordance with Health Physics Condition No. 1. Assigned dosimetry monitors will be worn by all participating personnel.

---

t. Are there any significant non-radiation personnel hazards associated with experiments; (Biological, Explosive, Toxic substances, High Intensity Optical sources, Microwaves, or Electrical) that would effect Health Physics personnel during there routine inspections of these areas.

[X] No

[ ] Yes(Please specify)

The Research Protocol enumerated above and on the previous pages is designed to ensure that occupational radiation exposures and release of radioactive effluents to the environment will be "as low as reasonably achievable" (ALARA) during all phases of the research procedure.

Signature Date 6-8-87

DISPOSITION FORM

For use of this form, see AR 340-15; the proponent agency is TAGO.

REFERENCE OR OFFICE SYMBOL	SUBJECT
HSHL-HP	Research Protocol for Isotope Named in the Application for Use of Radioactive Material Authorization # 511

TO: Health Physics Officer, WRAMC

FROM: Dr Frances Carr

DATE: 10-13-87

CMT 1

a. Principal User	Telephone Number	Authorization Number
Dr. Frances Carr	576-2852	511

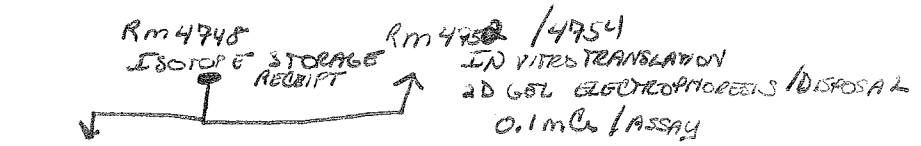
b. Investigator & Auth# (If different than (a.))	c. Trainee & Auth#	d. Technician & Auth#
Same	As listed under 511	As listed under 511

e. Radioisotope	Physical/Chemical form	Maximum Quantity to be used per Experiment in millicuries (mCi)
35S - Methionine	Ethanol	0.1 mCi per assay 0.1 mCi per reaction

f. Title of Project:	Maximum Quantity to be used for Entire Project (if known) in millicuries (mCi)
Regulation of Rat Tsh3 Gene Expression	Unknown

g. Beginning Date:	h. Ending Date:	i. Repetitive Study
Sept 1987	August 1992	(Yes) No

j. Life Cycle of Radioisotope Utilized for Research Procedure:
(Use block/flow diagram to show (where, how much, whose, etc.,) isotope travel from reciept to disposal.)



Rm 4743
Isotope use / Disposal
In Situ Hybridization
0.1 mCi / Assay
0.1 mCi / Reaction

DA FORM AUG 80 2496 PREVIOUS EDITIONS WILL BE USED ☆U.S. GOVERNMENT PRINTING OFFICE: 1982 373-1

k. Labelling and Transport of Radioactive Material

All radioactive solutions, tissues, animals and waste will be identified by proper label, in accordance with Health Physics Condition No. 4. Transport of radioactive material between authorized work areas and waste disposal sites will be conducted in a manner that precludes the spread of contamination and inadvertent exposure to non-participating personnel.

l. Laboratory Animal Usage Species	Bldg#	Room#
NONE		

m. Disposition of Animals

[X] Not Applicable

[ ] Animals will be sacrificed and carcasses will be disposed of as radioactive waste.

[ ] Other(Specify)

n. Isotope Utilization Locations	Location 1	Location 2	Location 3	Location 4
Building #	2	2	2	2
Room #	4948	4743	4752	4754
Max. Amt (mCi)	5 mCi STORAGE	0.1 mCi/ASSAY (SEQUENCING)	0.1 mCi	0.1 mCi

o. Isotope Storage Location

Building # 2 Room # 4748 Max. Amt. (mCi) 5 mCi

p. Isotope Waste Storage Locations

(1) Biological: Bldg# _____ Room# _____

(2) All other: Bldg# 2 Room# 4743 / 4752

[X] All radioactive waste will be transfered to the Health Physics collection point, WRAMC (Bldg 2 (NMFF) - loading dock)(1330 to 1430) Wednesday of each week.

[ ] All radioactive waste will be transfered to the Health Physics collection point, WRAIR (Bldg 40 - Room B079) Open Monday, Wednesday, & Friday 1130 to 1230.

[ ] All radioactive waste will be transfered to the Health Physics collection point, WRAIR (Forest Glen Section) every Wednesday afternoon.

q. Radioactive Waste Disposal

All radioactive waste will be transfered to Health Physics Office in accordance with Health Physics Condition No. 4.

---

r. Room Survey

All room surveys will be conducted in accordance with Health Physics Condition No. 2.

---

s. Personnel Dosimetry

Whole Body [X] Wrist Badge [ ] TLD Ring [ ]

will be requested in accordance with Health Physics Condition No. 1. Assigned dosimetry monitors will be worn by all participating personnel.

---

t. Are there any significant non-radiation personnel hazards associated with experiments; [redacted]
(Biological, Explosive, Toxic substances, High Intensity Optical sources, Microwaves, or Electrical)
that would effect Health Physics personnel during there routine inspections of these areas.

[X] No

[ ] Yes(Please specify)

The Research Protocol enumerated above and on the previous pages is designed to ensure that occupational radiation exposures and release of radioactive effluents to the environment will be "as low as reasonably achievable" (ALARA) during all phases of the research procedure.

Frances Law 10-13-87
Signature Date

K

Audit 5/17/99

Receipts in Inventory by Licensee

5/17/99
Page 1
M5020SP

RAM Receipt Id	Radio-nuclide	Chemical/Physical Form	Receipt Date	Receipt Activity	Fill In Current Activity	Decayed Inventory Activity (mCi)	Decayed Inventory Activity (MBq)	Supplier's Name	Purchase Order Number
Burch, Henry				**511**					
RMR51091	P-32	Deoxycytidine 5'-triphosphate, tetra(triethylammonium) salt, [alpha-32P]-(L)	4/1/98	1.000E+00 mCi	SAme	3.10000E-4	0.0113	Dupont NEN Research Products	YMEICQ35898
RMR51117	P-32	Deoxycytidine 5'-triphosphate, tetra(triethylammonium) salt, [alpha-32P]-(L)	4/17/98	1.000E+00 mCi	↓	2.80000E-4	0.0102	Dupont NEN Research Products	YMEICQ35898
RMR51224	P-32	Deoxycytidine 5'-triphosphate, tetra(triethylammonium) salt, [alpha-32P]-(L)	6/12/98	1.000E+00 mCi	↓	2.70000E-4	0.0102	Dupont NEN Research Products	RLZ48198
RMR51263	P-32	Deoxycytidine 5'-triphosphate, tetra(triethylammonium) salt, [alpha-32P]-(L)	7/1/98	1.000E+00 mCi	↓	2.70000E-4	0.0101	Dupont NEN Research Products	ICQ57798

Number of receipts = 4

The principal user's signature on this form indicates that a physical inventory of the radionuclides listed above has been performed.

Signature: Phyllis Blevins Date: 5/17/99

IC

WALTER REED ARMY MEDICAL CENTER
HEALTH PHYSICS OFFICE
6825 Sixteenth Street, Northwest • Building 41, Room 38 • Washington, D.C. 20307-5001 • (202) 356-0058/59

SOURCE VIAL RECORD
Radioactive Waste Turn-in

Date: 6/4/99

Authorization Number: 511

HPO RECEIPT NO.	ISOTOPES	ORIGINAL QUANTITY	REMAINING QUANTITY	ACTIVITY (mCi)
Dihydroxyvitamin D3	Cocktail H-3	1	0	
51091	P32	1	0	0
51117	P32	1	0	0
51224	P32	1	0	0
51263	P32	1	0	0

Person Turning In the Vial: PHYLLIS RHOOMS (PRINT NAME) Phyllis Rhooms (SIGNATURE)

Person Receiving the Vial: Vanessa Cox (PRINT NAME) 6/4/99 Vanessa Cox (SIGNATURE)

Receipts in Inventory by Licensee

1/27/99
Page 1
M5020SP

RAM Receipt Id	Radio-nuclide	Chemical/Physical Form	Receipt Date	Receipt Activity	Fill in Current Activity	Decayed Inventory Activity (mCi)	Decayed Inventory Activity (MBq)	Supplier's Name	Purchase Order Number
~~Tuttle, R.~~ Bruch, H.				511					
RMR51091	P-32	Deoxycytidine 5'-triphosphate, tetra(triethylammonium) salt, [alpha-32P]-(L)	4/1/98	1.000E+00 mCi	SAME	8.35600E-2	2.3517	Dupont NEN Research Products	YMEICQ35898
RMR51117	P-32	Deoxycytidine 5'-triphosphate, tetra(triethylammonium) salt, [alpha-32P]-(L)	4/17/98	1.000E+00 mCi	"	5.74000E-2	2.1237	Dupont NEN Research Products	YMEICQ35898
RMR51224	P-32	Deoxycytidine 5'-triphosphate, tetra(triethylammonium) salt, [alpha-32P]-(L)	6/12/98	1.000E+00 mCi	SAME	5.72700E-2	2.1191	Dupont NEN Research Products	RLZ48198
RMR51263	P-32	Deoxycytidine 5'-triphosphate, tetra(triethylammonium) salt, [alpha-32P]-(L)	7/1/98	1.000E+00 mCi	"	5.70400E-2	2.1107	Dupont NEN Research Products	1CQ57798
Number of receipts = 4									
" " = 1 TOTAL 5									

VITAMIN D STUDY NO DATE 0.005 MCi DUPONT NEN RESEARCH
3H Dihydroxyvitamin NET-626 PRODUCTS
LOT 2658

NUMBER OF RECEIPTS = 1

The principal user's signature on this form indicates that a physical inventory of the radionuclides listed above has been performed.

Signature: _____ Date: Feb, 3, 99

Audit
11/30/98

Receipts in Inventory by Licensee

11/23/98
Page 1
M5020SP

RAM Receipt Id	Radio-nuclide	Chemical/Physical Form	Receipt Date	Receipt Activity	Fill In Current Activity	Decayed Inventory Activity (mCi)	Decayed Inventory Activity (MBq)	Supplier's Name	Purchase Order Number
Tuttle, R.				**511**					
✓ RMR51091	P-32	Deoxycytidine 5'-triphosphate, tetra(triethylammonium) salt, [alpha-32P]-(L)	4/1/98	1.000E+00 mCi	SAME	6.82000E-3	0.2524	Dupont NEN Research Products	YMEICQ35898
✓ RMR51117	P-32	Deoxycytidine 5'-triphosphate, tetra(triethylammonium) salt, [alpha-32P]-(L)	4/17/98	1.000E+00 mCi	11	6.16000E-3	0.2279	Dupont NEN Research Products	YMEICQ35898
✓ RMR51224	P-32	Deoxycytidine 5'-triphosphate, tetra(triethylammonium) salt, [alpha-32P]-(L)	6/12/98	1.000E+00 mCi	SAME	6.15000E-3	0.2274	Dupont NEN Research Products	RLZ48198
✓ RMR51263	P-32	Deoxycytidine 5'-triphosphate, tetra(triethylammonium) salt, [alpha-32P]-(L)	7/1/98	1.000E+00 mCi	11	6.12000E-3	0.2265	Dupont NEN Research Products	ICQ57798
Number of receipts = 4									

The principal user's signature on this form indicates that a physical inventory of the radionuclides listed above has been performed.

Signature: Phyllis M. Bloom Date: 11, 30, 98

Receipts in Inventory by Licensee

8/4/98
Page 1
M5000SP

RAM Receipt Id	Radio-nuclide	Chemical/Physical Form	Receipt Date	Receipt Activity	Fill In Current Activity	Inventory Activity (mCi)	Inventory Activity (MBq)	Supplier's Name	Purchase Order Number
Tuttle, R.			511						
RMR51091	P-32	Deoxycytidine 5'-triphosphate, tetra(triethylammonium) salt, [alpha-32P]-(L)	4/1/98	1.000E+00 mCi	1 mCi	1.00000E0	3.70000E01	Dupont NEN Research Products	YMEICQ35898
RMR51117	P-32	Deoxycytidine 5'-triphosphate, tetra(triethylammonium) salt, [alpha-32P]-(L)	4/17/98	1.000E+00 mCi	0.9 mCi	1.00000E0	3.70000E01	Dupont NEN Research Products	YMEICQ35898
RMR51224	P-32	Deoxycytidine 5'-triphosphate, tetra(triethylammonium) salt, [alpha-32P]-(L)	6/12/98	1.000E+00 mCi	0.9 mCi	1.00000E0	3.70000E01	Dupont NEN Research Products	RLZ48198
RMR51263	P-32	Deoxycytidine 5'-triphosphate, tetra(triethylammonium) salt, [alpha-32P]-(L)	7/1/98	1.000E+00 mCi	0.9 mCi	1.00000E0	3.70000E01	Dupont NEN Research Products	ICQ57798

Total number of receipts = 4

The principal user's signature on this form indicates that a physical inventory of the radionuclides listed above has been performed.

Signature: Phyllis M. Rhodes Date: 8/12/98

Audit 5/19/98

Receipts in Inventory by Licensee

5/18/98
Page 1
M5000SP

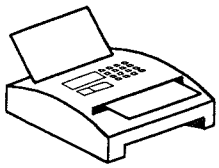
RAM Receipt Id	Radio-nuclide	Chemical/Physical Form	Receipt Date	Receipt Activity	Fill In Current Activity	Inventory Activity (mCi)	Inventory Activity (MBq)	Supplier's Name	Purchase Order Number
Tuttle, R.				511					
✓RMR51091	P-32	Deoxycytidine 5'-triphosphate, tetra(triethylammonium) salt, [alpha-32P]-(L)	4/1/98	1.000E+00 mCi	9.5 mCi same	1.00000E0	3.70000E01	Dupont NEN Research Products	YMEICQ35898
✓RMR51117	P-32	Deoxycytidine 5'-triphosphate, tetra(triethylammonium) salt, [alpha-32P]-(L)	4/17/98	1.000E+00 mCi	9.5 mCi	1.00000E0	3.70000E01	Dupont NEN Research Products	YMEICQ35898

The principal user's signature on this form indicates that a physical inventory of the radionuclides listed above has been performed.

Signature: Phyllis M. Bloomer Date: 5/19/98

Health Physics Office

Walter Reed Army Medical Center
6825 Sixteenth Street, Northwest
Building 41, Room 38
Washington, D.C. 20307-5001
VOICE (202) 356-0058/59 DSN: 642-0058
FAX (202) 356-0086



Facsimile Cover Sheet

TO:

MAJ Michael Tuttle

782-0187

FROM:

Miss Vanessa Cox
202-356-0047

REMARKS:

I put the 3-Month Inventory in your mail box on February 6, 1998 with a suspense date of February 23, 1998. As I informed you in our conversation today, March 12, 1998, I have not as of yet received the inventory from you. Anyway, I was going to send you another copy of your current inventory, but I am unable to do so. In trying to pull up the inventory in the computer, I discovered that Mr. Anderson turned in your entire inventory for waste on February 27, 1998. To make a long story short, you do not have any isotopes under your authorization to date, so you do not have to fill out a non-existent inventory.

Thank you

COVER SHEET PLUS PAGES

Audit Dec. 2, 1997

CHAMMP Report

Receipts in Inventory by Activity for Internal License 511(Tuttle, R.) (A208)

DEC 02 1997 09:08:00

Receipt Key	Radio-Nuclide	Chemical/Physical Form	Receipt Date	Receipt Activity	Current Activity	Inventory Activity(mCi)	Inventory Activity(MBq)	Supplier	P.O. Number
RMR50596	P-32	Deoxycytidine 5'-tri	07/18/1997	1.000E+00 mCi	0	8.919E-02	3.300E+00	Dupont NEN Research Products	DADA1597P4588
RMR50730	P-32	Deoxycytidine 5'-tri	09/19/1997	1.000E+00 mCi	0.1mCi	1.000E+00	3.700E+01	Dupont NEN Research Products	YMACQ71578114
RMR50790	P-32	Adenosine 5'-triphos	10/17/1997	1.000E+00 mCi	0.044mCi	1.000E+00	3.700E+01	Dupont NEN Research Products	YMARCQ91497
RMR50834	P-32	Adenosine 5'-triphos	11/07/1997	1.000E+00 mCi	0.02mCi	1.000E+00	3.700E+01	Dupont NEN Research Products	YMARCQ91497
RMR50861	P-32	Adenosine 5'-triphos	11/21/1997	1.000E+00 mCi	0.044mCi	1.000E+00	3.700E+01	Dupont NEN Research Products	YMACQ91497
RMR50862	P-32	Deoxycytidine 5'-tri	11/21/1997	1.000E+00 mCi	0.1mCi	1.000E+00	3.700E+01	Dupont NEN Research Products	YMEICQ19

6 Records Processed

Were all the above isotopes on hand? Yes

The principal users signature on the bottom of this form indicates that a physical inventory of the radionuclides listed has been performed.

Signature: Kathy Carlson Date: 12/02/97

IC

WALTER REED ARMY MEDICAL CENTER
HEALTH PHYSICS OFFICE
6825 Sixteenth Street, Northwest • Building 41, Room 38 • Washington, D.C. 20307-5001 • (202) 356-0058/59

SOURCE VIAL RECORD
Radioactive Waste Turn-in

Date: 2/27/98

Authorization Number: 511

HPO RECEIPT NO.	ISOTOPES	ORIGINAL QUANTITY	REMAINING QUANTITY	ACTIVITY (mCi)
50717	P32	1 mCi	0.5 mCi	
50730	P32	1 mCi	0.3 mCi	
50896	P32	1 mCi	0.2 mCi	
50862	P32	1 mCi	0.5 mCi	
50790	P32	1 mCi	0.4 mCi	
50834	P32	1 mCi	0.2 mCi	
50861	P32	1 mCi	0.3 mCi	
50971	P32	1 mCi	Trace	
50904	P32	1 mCi	0.2 mCi	
50988	P32	1 mCi	0.5 mCi	
50944	P32	1 mCi	0.25 mCi	

Person Turning In the Vial: Jeffrey S. Anderson (PRINT NAME) — (SIGNATURE)

Person Receiving the Vial: David E. McDaniel (PRINT NAME) — (SIGNATURE)

* Zero out on 1/12/98.

WALTER REED ARMY MEDICAL CENTER
HEALTH PHYSICS OFFICE
6825 Sixteenth Street, Northwest • Building 41, Room 38 • Washington, D.C. 20307-5001 • (202) 356-0058/59

SOURCE VIAL RECORD
Radioactive Waste Turn-in

Date: 9/12/97

Authorization Number: 511

HPO RECEIPT NO.	ISOTOPES	ORIGINAL QUANTITY	REMAINING QUANTITY	ACTIVITY (mCi)
50424	P32	1mCi	~~1ml 100uCi~~	100uCi
50526	P32	1mCi	1ml	100uCi
50589-1	P32	1mCi	1ml	100uCi
-2	P32	1mCi	1ml	100uCi
-3	P32	1mCi	1ml	100uCi
50414-1	P32	1mCi	1ml	100uCi
-2	P32	1mCi	1ml	100uCi
-3	P32	1mCi	1ml	100uCi

Person Turning In the Vial: Jeffrey Anderson (PRINT NAME) J Anderson (SIGNATURE)

Person Receiving the Vial: Cpl Dupuis (PRINT NAME) Cpl Dupuis (SIGNATURE)

CHAMMP Report

Receipts in Inventory by Activity for Internal License 511(Tuttle, R.) (A208)

JUL 30 1997 14:13:44

Receipt Key	Radio-Nuclide	Chemical/Physical Form	Receipt Date	Receipt Activity	Current Activity	Inventory Activity(mCi)	Inventory Activity(MBq)	Supplier	P.O. Number
RMR50414	P-32	3x Deoxycytidine 5'-	04/28/1997	3.000E+00 mCi	0 mCi	8.672E-02	3.209E+00	Dupont NEN Research Products	DADA1597P4205
RMR50526	P-32	Deoxycytidine 5'-tri	06/20/1997	1.000E+00 mCi	0.05 mCi	1.000E+00	3.700E+01	Dupont NEN Research Products	DADA1597P4588
RMR50589	P-32	Deoxycytidine 5'-tri	07/14/1997	2.000E+00 mCi	0.5 mCi	2.000E+00	7.400E+01	Dupont NEN Research Products	YMEICQ7157811
RMR50596	P-32	Deoxycytidine 5'-tri	07/18/1997	1.000E+00 mCi	0.25 mCi	1.000E+00	3.700E+01	Dupont NEN Research Products	DADA1597P4588

4 Records Processed

The principal users signature on the bottom of this form indicates that a physical inventory of the radionuclides listed has been performed.

Signature: R. Michael Tuttle Date: 08/21/97

Audit May 9, 1997

CHAMMP Report

Receipts in Inventory by Activity for Internal License 511(Tuttle, R.) (A208)

MAY 09 1997 07:46:36

Receipt Key	Radio-Nuclide	Chemical/Physical Form	Receipt Date	Receipt Activity	Current Activity	Inventory Activity(mCi)	Inventory Activity(MBq)	Supplier	P.O. Number
RMR50188	P-32	Adenosine 5'-triphos	01/03/1997	1.000E+00 mCi	0	3.394E-03	1.256E-01	Dupont NEN Research Products	8516006366
RMR50273	P-32	Adenosine 5'-triphos	02/24/1997	1.000E+00 mCi	0	4.217E-02	1.560E+00	Dupont NEN Research Products	DADA97P2029
RMR50286	P-32	Adenosine 5'-triphos	02/25/1997	1.000E+00 mCi	0	4.489E-02	1.661E+00	Dupont NEN Research Products	DADA97P2029
RMR50287	P-32	Deoxycytidine 5'-tri	02/25/1997	1.000E+00 mCi	0	4.489E-02	1.661E+00	Dupont NEN Research Products	DADA1597P0201
RMR50306	P-32	Adenosine 5'-triphos	03/07/1997	1.000E+00 mCi	0	7.201E-02	2.664E+00	Dupont NEN Research Products	DADA97P2029
RMR50307	P-32	Deoxycytidine 5'-tri	03/07/1997	1.000E+00 mCi	0	7.201E-02	2.664E+00	Dupont NEN Research Products	DADA1597P0201
RMR50328	P-32	Deoxycytidine 5'-tri	03/21/1997	1.000E+00 mCi	0	1.420E-01	5.256E+00	Dupont NEN Research Products	DADA1597P0201
RMR50362	P-32	Deoxycytidine 5'-tri	04/07/1997	1.000E+00 mCi	0	3.242E-01	1.200E+01	Dupont NEN Research Products	DADA1597P0201
RMR50390	P-32	Deoxycytidine 5'-tri	04/18/1997	1.000E+00 mCi	0	5.521E-01	2.043E+01	Dupont NEN Research Products	DADA1597P0201
RMR50391	P-32	Adenosine 5'-triphos	04/18/1997	1.000E+00 mCi	0	5.521E-01	2.043E+01	Dupont NEN Research Products	DADA1597P2029
RMR50414	P-32	3x Deoxycytidine 5'-	04/28/1997	3.000E+00 mCi	same	3.000E+00	1.110E+02	Dupont NEN Research Products	DADA1597P4205

11 Records Processed

Did the authorization display ALL the above isotopes for the auditor? Yes

The principal users signature on the bottom of this form indicates that a physical inventory of the radionuclides listed has been performed.

Signature: Jerry D. Tuttle Date: 5/9/97

CHAMMP Report

Receipts in Inventory by Activity for Internal License 511(Tuttle, R.) (A208)

FEB 03 1997 11:20:48

Receipt Key	Radio-Nuclide	Chemical/Physical Form	Receipt Date	Receipt Activity	Current Activity	Inventory Activity(mCi)	Inventory Activity(MBq)	Supplier	P.O. Number
RMR50001	P-32	Deoxycytidine 5'-tri	10/11/96	1.000E+00 mCi	0	7.050E-01	2.609E+01	Dupont NEN Research Products	DADA1597P0201
RMR50036	P-32	Deoxycytidine 5'-tri	10/25/96	1.000E+00 mCi	0	1.000E+00	3.700E+01	Dupont NEN Research Products	DADA159790201
RMR50047	P-32	Adenosine 5'-triphos	11/01/96	1.000E+00 mCi	0	1.000E+00	3.700E+01	Dupont NEN Research Products	DADA1597P0208
RMR50056	P-32	Deoxycytidine 5'-tri	11/08/96	1.000E+00 mCi	0	1.000E+00	3.700E+01	Dupont NEN Research Products	DADA1597P0201
RMR50079	P-32	Adenosine 5'-triphos	11/15/96	1.000E+00 mCi	0	1.000E+00	3.700E+01	Dupont NEN Research Products	DADA1597P0208
RMR50093	P-32	Deoxycytidine 5'-tri	11/22/96	1.000E+00 mCi	0	1.000E+00	3.700E+01	Dupont NEN Research Products	DADA1597P0201
RMR50109	P-32	Adenosine 5'-triphos	12/02/96	1.000E+00 mCi	0	1.000E+00	3.700E+01	Dupont NEN Research Products	DADA1597P0208
RMR50132	P-32	Deoxycytidine 5'-tri	12/06/96	1.000E+00 mCi	0	1.000E+00	3.700E+01	Dupont NEN Research Products	DADA1597P0201
RMR50133	P-32	Adenosine 5'-triphos	12/06/96	1.000E+00 mCi	0	1.000E+00	3.700E+01	Dupont NEN Research Products	DADA1597P0208
RMR50168	P-32	Adenosine 5'-triphos	12/30/96	1.000E+00 mCi	0	1.000E+00	3.700E+01	Dupont NEN Research Products	8516006366
RMR50188	P-32	Adenosine 5'-triphos	01/03/97	1.000E+00 mCi	0	1.000E+00	3.700E+01	Dupont NEN Research Products	8516006366
RMR50131	S-35	Methionine, L-[35S]-	12/06/96	1.000E+00 mCi	0	1.000E+00	3.700E+01	Dupont NEN Research Products	DADA1597P1327

12 Records Processed

As of 12 Feb 97, all isotopes listed above have been discarded as outdated material - J Anderson

The principal users signature on the bottom of this form indicates that a physical inventory of the radionuclides listed has been performed.

Signature: R Tuttle Date: 13, Feb, 97

Audit 11/8/96

CHAMMP Report

Receipts in Inventory by Activity for Internal License 511(Tuttle, R.) (A208)

NOV 07 1996 14:38:34

Receipt Key	Radio-Nuclide	Chemical/Physical Form	Receipt Date	Receipt Activity	Current Activity	Inventory Activity(mCi)	Inventory Activity(MBq)	Supplier	P.O. Number
RMR49927	P-32	Adenosine 5'-triphos	08/30/96	1.000E+00 mCi	0	9.210E-02	3.408E+00	Dupont NEN Research Products	DADA1596P8411
RMR49941	P-32	Adenosine 5'-triphos	09/09/96	1.000E+00 mCi	0	1.493E-01	5.526E+00	Dupont NEN Research Products	96P8411
RMR50001	P-32	Deoxycytidine 5'-tri	10/11/96	1.000E+00 mCi	SAME	7.050E-01	2.609E+01	Dupont NEN Research Products	DADA1597P0201
RMR50036	P-32	Deoxycytidine 5'-tri	10/25/96	1.000E+00 mCi	SAME	1.000E+00	3.700E+01	Dupont NEN Research Products	DADA159790201
RMR50047	P-32	Adenosine 5'-triphos	11/01/96	1.000E+00 mCi	SAME	1.000E+00	3.700E+01	Dupont NEN Research Products	DADA1597P0208

5 Records Processed

The principal users signature on the bottom of this form indicates that a physical inventory of the radionuclides listed has been performed.

Signature: Jeffrey S. Tuttle Date: 11, 8, 96

 Audit 5/15/96

CHAMMP Report

MAY 09 1996 11:30:49

Receipts in Inventory by Activity for Internal License 511(Nicholson, Diarmuid)

Key	Radio-Nuclide	Chemical/Physical Form	Receipt Date	Receipt Activity	Current Activity	Inventory Activity(mCi)	Inventory Activity(MBq)	Supplier	P.O. Number
RMR49499	H-3	Thymidine, [methyl-3	02/22/96	1.000E+00 mCi	0	5.979E-01	2.212E+01	Dupont NEN Research Products	DADA1596P3182
RMR49634	H-3	Thymidine, [methyl-3	04/22/96	1.000E+00 mCi	0	1.000E+00	3.700E+01	Dupont NEN Research Products	DADA1596PG141
RMR49487	P-32	Deoxycytidine 5'-tri	02/16/96	1.000E+00 mCi	0	2.285E-01	8.453E+00	Dupont NEN Research Products	DADA1596P3295
RMR49488	P-32	Uridine 5'-triphosph	02/16/96	1.000E+00 mCi	0	2.295E-01	8.492E+00	Dupont NEN Research Products	DADA1596P4069
RMR49503	P-32	Adenosine 5'-triphos	02/23/96	1.000E+00 mCi	0	1.632E-01	6.039E+00	Dupont NEN Research Products	DADA1596P4230
RMR49550	P-32	Deoxycytidine 5'-tri	03/14/96	1.000E+00 mCi	0	4.823E-01	1.784E+01	Dupont NEN Research Products	DADA1596P3295
RMR49555	P-32	Adenosine 5'-triphos	03/15/96	1.000E+00 mCi	0	5.059E-01	1.872E+01	Dupont NEN Research Products	DADA1596P4230
RMR49578	P-32	Deoxycytidine 5'-tri	03/28/96	1.000E+00 mCi	0	9.522E-01	3.523E+01	Dupont NEN Research Products	DADA1596P3295
RMR49597	P-32	Adenosine 5'-triphos	04/05/96	1.000E+00 mCi	0	1.000E+00	3.700E+01	Dupont NEN Research Products	DADA1596P4230
RMR49618	P-32	Deoxycytidine 5'-tri	04/11/96	2.530E-01 mCi	0	2.530E-01	9.361E+00	Dupont NEN Research Products	DADA1596P3295
RMR49635	P-32	Uridine 5'-triphosph	04/22/96	1.000E+00 mCi	0	1.000E+00	3.700E+01	Dupont NEN Research Products	DADA1596PG145

11 Records Processed

The principal users signature on the bottom of this form indicates that a physical inventory of the radionuclides listed has been performed.

Signature: Jane L Martin Date: 5/15/96

CHAMMP Report

JAN 30 1996 10:25:08

Receipts in Inventory by Activity for Internal License 511(Nicholson, Diarmuid)

Key	Radio-Nuclide	Chemical/Physical Form	Receipt Date	Receipt Activity	Current Activity	Inventory Activity(mCi)	Inventory Activity(MBq)	Supplier	P.O. Number
RMR48995	H-3	Thymidine, [methyl-3	08/02/95	1.000E+00 mCi	0	2.480E-01	9.176E+00	Dupont NEN Research Products	DADA1595V1551
RMR49291	P-32	Deoxycytidine 5'-tri	11/21/95	1.000E+00 mCi	0	1.646E-01	6.089E+00	Dupont NEN Research Products	DADA1596P0835
RMR49305	P-32	Deoxycytidine 5'-tri	11/29/95	1.000E+00 mCi	0	2.426E-01	8.976E+00	Dupont NEN Research Products	DADA1596P0835
RMR49328	P-32	Deoxycytidine 5'-tri	12/08/95	1.000E+00 mCi	0	3.749E-01	1.387E+01	Dupont NEN Research Products	DADA1596P0835

4 Records Processed

049503 P-32 Adenosine 5'tri 2/28/96 1 mCi 0.5 mCi "

DADA 1596 P4230

049487 P-32 Deoxycytidine 5'tri 2/20/96 1.0 mCi 0.7 mCi "

049488 P-32 Uridine 5'tri 2/23/96 1.0 mCi 0.7 mCi "

DADA 1596 P4069

049499 H-3 Thymidine 1 mCi 0.6 mCi "

The principal users signature on the bottom of this form indicates that a physical inventory of the radionuclides listed has been performed.

Signature: R Nicholson Date: MAR / 6 / 96

Audit 11/6/95

CHAMMP Report

NOV 02 1995 11:30:05

Receipts in Inventory by Activity for Internal License 511(Nicholson, Diarmuid)

Key	Radio-Nuclide	Chemical/Physical Form	Receipt Date	Receipt Activity	Current Activity	Inventory Activity(mCi)	Inventory Activity(MBq)	Supplier	P.O. Number
RMR48995	H-3	Thymidine, [methyl-3	08/02/95	1.000E+00 mCi	250 µCi	9.925E-01	3.672E+01	Dupont NEN Research Products	DADA1595V1551
RMR48732	P-32	dCTP(L)	04/27/95	1.000E+00 mCi	0	5.897E-04	2.182E-02	Dupont NEN Research Products	DADA1595P3559
RMR48791	P-32	DCTP(L)	05/18/95	1.000E+00 mCi	0	2.324E-03	8.599E-02	Dupont NEN Research Products	DADA1595P3559
RMR48841	P-32	Deoxycytidine 5'-tri	06/08/95	1.000E+00 mCi	0	6.435E-03	2.381E-01	Dupont NEN Research Products	DADA1595P3559
RMR48870	P-32	Deoxycytidine 5'-tri	06/23/95	1.000E+00 mCi	0	1.334E-02	4.937E-01	Dupont NEN Research Products	DADA1595V0165
RMR48887	P-32	Deoxycytidine 5'-tri	06/29/95	1.000E+00 mCi	0	1.782E-02	6.593E-01	Dupont NEN Research Products	DADA1595P3559
RMR48990	P-32	Uridine 5'-triphosph	08/01/95	3.000E+00 mCi	0	2.654E-01	9.821E+00	Dupont NEN Research Products	DADA1595P9894
RMR49033	P-32	DEOXYCYTIDINE 5'TRIP	08/18/95	1.500E+00 mCi	0	3.023E-01	1.119E+01	Dupont NEN Research Products	DADA1595V1946
RMR49044	P-32	Deoxycytidine 5'-tri	08/22/95	1.000E+00 mCi	0	2.447E-01	9.052E+00	Dupont NEN Research Products	DADA1595V1946
RMR49094	P-32	Deoxycytidine 5'-tri	09/08/95	1.000E+00 mCi	0	5.584E-01	2.066E+01	Dupont NEN Research Products	DADA1595V1946
RMR49140	P-32	Deoxycytidine 5'-tri	09/22/95	1.000E+00 mCi	0	1.000E+00	3.700E+01	Dupont NEN Research Products	DADA1595V1946
RMR49188	P-32	Deoxycytidine 5'-tri	10/06/95	1.000E+00 mCi	0	1.000E+00	3.700E+01	Dupont NEN Research Products	DADA1595V1946

12 Records Processed

The principal users signature on the bottom of this form indicates that a physical inventory of the radionuclides listed has been performed.

Signature: D. E. Nicholson Date: 11/6/95

APR 28 1995 13:00:01

CHAMMP Report

Receipts in Inventory by Activity for Internal License 511(Nicholson, Diarmuid)

Key	Radio-Nuclide	Chemical/Physical Form	Receipt Date	Receipt Activity	Current Activity	Inventory Activity(mCi)	Inventory Activity(MBq)	Supplier	P.O. Number
RMR48533	I-125	T3 TOTAL	02/13/95	6.000E-03 mCi	0	2.586E-03	9.567E-02	ICN Micromedics	DADA1592A0103
RMR48534	I-125	T4	02/13/95	5.200E-03 mCi	0	2.241E-03	8.291E-02	ICN Micromedics	DADA1592A0103
RMR48535	I-125	T3 UPTAKE	02/13/95	5.200E-03 mCi	0	2.215E-03	8.196E-02	ICN Micromedics	DADA1592A0103
RMR48645	I-125	ACETYLCHOLINE	03/28/95	1.000E-03 mCi	0	6.989E-04	2.586E-02	KRONUS	DADA1595A0005
RMR48646	I-125	TSH	03/28/95	1.000E-03 mCi	0	6.989E-04	2.586E-02	KRONUS	DADA1595A0005
RMR48525	P-32	dCTP,ALPHA	02/10/95	1.000E+00 mCi	0	2.376E-02	8.791E-01	Dupont NEN Research Products	DADA1595P0078
RMR48526	P-32	ATP,ALPHA	02/10/95	5.000E-01 mCi	~~5.0~~ 0	1.188E-02	4.396E-01	Dupont NEN Research Products	DADA1593A0014
RMR48551	P-32	dCTP,ALPHA	02/23/95	1.000E+00 mCi	0	4.460E-02	1.650E+00	Dupont NEN Research Products	DADA1595P3559
RMR48569	P-32	dCTP,ALPHA	03/03/95	1.000E+00 mCi	0	6.579E-02	2.434E+00	Dupont NEN Research Products	DADA1595P0078
RMR48619	P-32	dCTP,ALPHA	03/16/95	1.000E+00 mCi	0	1.237E-01	4.576E+00	Dupont NEN Research Products	DADA1595P3559
RMR48676	P-32	dCTP,ALPHA	04/06/95	1.000E+00 mCi	0	3.421E-01	1.266E+01	Dupont NEN Research Products	DADA1595P3559
				1.0	0.5				

48732

11 Records Processed

The principal users signature on the bottom of this form indicates that a physical inventory of the radionuclides listed has been performed.

Signature: Jesse L Martin Date: 5/4/95

CHAMMP Report

JAN 11 1995 07:14:34

Receipts in Inventory by Activity for Internal License 511(Nicholson, Diarmuid)

Key	Radio-Nuclide	Chemical/Physical Form	Receipt Date	Receipt Activity	Current Activity	Inventory Activity(mCi)	Inventory Activity(MBq)	Supplier	P.O. Number
RMR48335	H-3	ARACHIDONIC ACID	12/07/94	5.000E-02 mCi	0	5.000E-02	1.850E+00	Dupont NEN Research Products	DADA1595P1053
RMR48433	H-3	THYNIDINE	01/06/95	1.000E+00 mCi	0	1.000E+00	3.700E+01	Dupont NEN Research Products	DADA1593A0014
RMR48340	I-125	cAMP	12/08/94	3.000E-03 mCi	0	3.000E-03	1.110E-01	Dupont NEN Research Products	DADA1595P1053
RMR48210	P-32	dCTP,ALPHA	10/28/94	1.000E+00 mCi	0	8.236E-01	3.047E+01	Dupont NEN Research Products	DADA1595P0078
RMR48240	P-32	ATP,GAMMA	11/08/94	1.000E+00 mCi	0	1.000E+00	3.700E+01	Dupont NEN Research Products	DAMD1794M9658
RMR48268	P-32	dCTP,ALPHA	11/18/94	1.000E+00 mCi	0	1.000E+00	3.700E+01	Dupont NEN Research Products	DADA1595P0078
RMR48312	P-32	ATP,ALPHA	12/02/94	5.000E-01 mCi	0	5.000E-01	1.850E+01	Dupont NEN Research Products	DADA1595P1190
RMR48329	P-32	dCTP,ALPHA	12/06/94	1.000E+00 mCi	0	1.000E+00	3.700E+01	Dupont NEN Research Products	DADA1593A0014
RMR48343	P-32	dCTP,ALPHA	12/09/94	1.000E+00 mCi	0	1.000E+00	3.700E+01	Dupont NEN Research Products	DADA1595P0078
RMR48344	P-32	ATP,GAMMA	12/09/94	1.000E+00 mCi	0	1.000E+00	3.700E+01	Dupont NEN Research Products	DAMD1794M9658
RMR48416	P-32	dCTP,ALPHA	12/30/94	1.000E+00 mCi	0	1.000E+00	3.700E+01	Dupont NEN Research Products	DADA1595P0078

11 Records Processed

RMR48458 - P32 ATP Gamma 1/18/95 1.000E+00 mCi 0

RMR48526 P-32 ATP " 2/13/95 - 500 uc

RMR48467 P32 dCTP, Alpha 1/20/95 1mc 0

RMR48495 P32 dCTP, " 2/2/95 1 mc 0

RMR48525 P32 dCTP " 2/10/95 1mc

RMR48534 T_4 I125 2/14/95 - 0.0652 mci

RMR48533 T_3 I125 2/14/95 0.0652 mc

RMR48535 T_3 I125 2/14/95 0.0652 mc

The principal users signature on the bottom of this form indicates that a physical inventory of the radionuclides listed has been performed.

Signature: D. E. Nicholson Date: 02/14/95

CHAMMP Report

Receipts in Inventory by Activity for Internal License 511(Nicholson, Diarmuid)

OCT 24 1994 07:13:03

11/1/94

Key	Radio-Nuclide	Chemical/Physical Form	Receipt Date	Receipt Activity	Current Activity	Inventory Activity(mCi)	Inventory Activity(MBq)	Supplier	P.O. Number
RMR47763	H-3	INOSITOL X 2	05/24/94	2.000E+00 mCi	0	1.794E+00	6.639E+01	Dupont NEN Research Products	DADA1593A0014
RMR47815	H-3	ARACHIDONIC ACID	06/09/94	5.000E-02 mCi		3.987E-02	1.475E+00	Dupont NEN Research Products	DADA1593A0014
RMR47817	H-3	MYO-INOSITOL X 2	06/14/94	2.000E+00 mCi		1.983E+00	7.336E+01	Dupont NEN Research Products	DADA1593A0014
RMR47816	I-125	cAMP	06/09/94	3.000E-03 mCi		1.182E-03	4.373E-02	Dupont NEN Research Products	DADA1593A0014
RMR48171	I-125	cAMP X 2	10/07/94	6.000E-03 mCi		6.000E-03	2.220E-01	Dupont NEN Research Products	DADA1594V3353
RMR47842	P-32	ATP,GAMMA	06/16/94	1.000E+00 mCi	0	7.338E-02	2.715E+00	Amersham Corporation	DADA1593A0014
RMR47844	P-32	dCTP,ALPHA	06/17/94	1.000E+00 mCi		7.338E-02	2.715E+00	Dupont NEN Research Products	DADA1594P7130
RMR47909	P-32	dCTP	07/08/94	1.000E+00 mCi		2.089E-01	7.729E+00	Dupont NEN Research Products	DADA1594P7130
RMR47919	P-32	dATP	07/11/94	2.500E-01 mCi		6.046E-02	2.237E+00	Dupont NEN Research Products	DADA1593A0014
RMR47969	P-32	dCTP,ALPHA	07/29/94	1.000E+00 mCi		5.791E-01	2.143E+01	Dupont NEN Research Products	DADA1594P7130
RMR48030	P-32	dCTP	08/18/94	1.000E+00 mCi		1.000E+00	3.700E+01	Dupont NEN Research Products	DADA1594V1830
RMR48031	P-32	DTP	08/19/94	1.000E+00 mCi		1.000E+00	3.700E+01	Dupont NEN Research Products	DADA1594P7130
RMR48079	P-32	dCTP,ALPHA	09/09/94	1.000E+00 mCi		1.000E+00	3.700E+01	Dupont NEN Research Products	DADA1594P7130
RMR48107	P-32	ATP	09/20/94	1.000E+00 mCi		1.000E+00	3.700E+01	Dupont NEN Research Products	DAMD1794M9658
RMR48146	P-32	dCTP,ALPHA	09/30/94	1.000E+00 mCi		1.000E+00	3.700E+01	Dupont NEN Research Products	DADA1594P7130
RMR48150	P-32	ATP,GAMMA	10/04/94	1.000E+00 mCi		1.000E+00	3.700E+01	Dupont NEN Research Products	DAMD1794M9658
RMR48183	P-32	dCTP,ALPHA	10/14/94	1.000E+00 mCi		1.000E+00	3.700E+01	Dupont NEN Research Products	DADA1594P7130
RMR47814	~~S-35~~ Cr-51 Na	NaCHROMATE	06/09/94	2.000E+00 mCi		1.231E+00	4.554E+01	Dupont NEN Research Products	DADA1593A0014

48210 P32 dCTP 1.0mCi 1.0

18 Records Processed

The principal users signature on the bottom of this form indicates that a physical inventory of the radionuclides listed has been performed.

Signature: Jane Lynch Date: 11/1/94

CHAMMP Report

JUN 20 1994 07:44:30

Receipts in Inventory by Activity for Internal License 511(Nicholson, Diarmuid)

Key	Radio-Nuclide	Chemical/Physical Form	Receipt Date	Receipt Activity	Current Activity	Inventory Activity(mCi)	Inventory Activity(MBq)	Supplier	P.O. Number
RMR47763	H-3	INOSITOL X 2	05/24/94	2.000E+00 mCi	1.8 mCi	2.000E+00	7.400E+01	Dupont NEN Research Products	DADA1593A0014
RMR47815	H-3	ARACHIDONIC ACID	06/09/94	5.000E-02 mCi	$4.\times10^{-2}$ mCi	5.000E-02	1.850E+00	Dupont NEN Research Products	DADA1593A0014
RMR47817	H-3	MYO-INOSITOL X 2	06/14/94	2.000E+00 mCi	2.0 mCi	2.000E+00	7.400E+01	Dupont NEN Research Products	DADA1593A0014
RMR47816	I-125	cAMP	06/09/94	3.000E-03 mCi	1.5×10^{-3} mCi	3.000E-03	1.110E-01	Dupont NEN Research Products	DADA1593A0014
RMR47711	P-32	dCTP,ALPHA	05/06/94	1.000E+00 mCi	0	8.402E-01	3.109E+01	Dupont NEN Research Products	DADA1594P7130
RMR47769	P-32	dCTP,ALPHA	05/27/94	1.000E+00 mCi	0	1.000E+00	3.700E+01	Dupont NEN Research Products	DADA1594P7130
RMR47842	P-32	ATP,GAMMA	06/16/94	1.000E+00 mCi	2×10^{-1} mCi	1.000E+00	3.700E+01	Amersham Corporation	DADA1593A0014
RMR47844	P-32	dCTP,ALPHA	06/17/94	1.000E+00 mCi	2×10^{-1} mCi	1.000E+00	3.700E+01	Dupont NEN Research Products	DADA1594P7130
RMR47814	~~S-35~~ S-35 OK	NaCHROMATE	06/09/94	2.000E+00 mCi	2 mCi	2.000E+00	7.400E+01	Dupont NEN Research Products	DADA1593A0014

9 Records Processed

The principal users signature on the bottom of this form indicates that a physical inventory of the radionuclides listed has been performed.

Signature: A E Nicholson Date: 07/20/94

CHAMMP Report

APR 29 1994 07:33:02

Receipts in Inventory by Activity for Internal License 511(Nicholson, Diarmuid)

Audit 5/10/94

Key	Radio-Nuclide	Chemical/Physical Form	Receipt Date	Receipt Activity	Current Activity	Inventory Activity(mCi)	Inventory Activity(MBq)	Supplier	P.O. Number
RMR47123	C-14	CHLORAMPHENICOL	11/03/93	5.000E-02 mCi	0	5.000E-02	1.850E+00	Dupont NEN Research Products	DADA1593A0014
RMR47216	C-14	CHLORPHENICOLX2	12/02/93	1.000E-01 mCi	0	1.000E-02	3.700E-01	Dupont NEN Research Products	DADA1593A0014
RMR47391	I-125	ANF X 2	01/19/94	2.000E-02 mCi	0	1.000E-02	3.700E-01	Dupont NEN Research Products	DADA1593A0014
RMR47436	P-32	dCTP,ALPHA	02/04/94	1.000E+00 mCi		2.500E-01	9.250E+00	Dupont NEN Research Products	DADA1593A0014
RMR47528	P-32	dCTP,ALPHA	03/03/94	1.000E+00 mCi		1.000E+00	3.700E+01	Dupont NEN Research Products	DADA1593A0014
RMR47554	P-32	ATP	03/15/94	2.500E-01 mCi		2.500E-01	9.250E+00	Dupont NEN Research Products	DADA1593A0014
RMR47593	P-32	dATP,ALPHA	03/28/94	2.500E-01 mCi		2.500E-01	9.250E+00	Dupont NEN Research Products	DADA1593A0014
RMR47594	P-32	dCTP,ALPHA	03/28/94	1.000E+00 mCi		1.000E+00	3.700E+01	Dupont NEN Research Products	DADA1593A0014
RMR47680	P-32	dCTP	04/28/94	1.000E+00 mCi	↓	1.000E+00	3.700E+01	Dupont NEN Research Products	DADA1593A0014

47711 dCTP 1.0 mCi

9 Records Processed

Signature: Jane L Martin Date: 5/10/94

CHAMMP Report
Receipts in Inventory by Activity for Internal License 511(Nicholson, Diarmuid)

JAN 24 1994 10:30:32

	Radio-Nuclide	Chemical/Physical Form	Receipt Date	Receipt Activity	Current Activity	Inventory Activity(mCi)	Inventory Activity(MBq)	Supplier	P.O. Number
7123	C-14	CHLORAMPHENICOL	11/03/93	5.000E-02 mCi	5.0 E-02	5.000E-02	1.850E+00	Dupont NEN Research Products	DADA1593A0014
7216	C-14	CHLORPHENICOLX2	12/02/93	1.000E-01 mCi	1.0 E-02	1.000E-01	3.700E+00	Dupont NEN Research Products	DADA1593A0014
	I-125	ENDOTHELIN-1,2	12/15/93	1.850E-02 MBq	0	5.000E-04	1.850E-02	Amersham Corporation	DADA1593P9081
	I-125	ENDOTHELIN-1	12/15/93	4.440E-01 MBq	0	1.200E-02	4.440E-01	Dupont NEN Research Products	DADA1593A0014
6	I-125	ANF	12/15/93	3.700E-01 MBq	0	1.000E-02	3.700E-01	Dupont NEN Research Products	DADA1593A0014
7391	I-125	ANF X 2	01/19/94	2.000E-02 mCi	1.0 E-02	2.000E-02	7.400E-01	Dupont NEN Research Products	DADA1593A0014
7113	P-32	dATP alpha	11/02/93	1.000E+00 mCi	0	1.000E+00	3.700E+01	Dupont NEN Research Products	DADA1593A0014
7114	P-32	dCTP DTP alpha	11/02/93	1.000E+00 mCi	0	1.000E+00	3.700E+01	Dupont NEN Research Products	DADA1593A0014
7149	P-32	ATP,GAMMA X 3	11/09/93	1.500E+01 mCi	0	1.500E+01	5.550E+02	Dupont NEN Research Products	DADA1593A0014
7170	P-32	dATP	11/16/93	2.500E-01 mCi	0	2.500E-01	9.250E+00	Dupont NEN Research Products	DADA1593P5483
7196	P-32	dCTP alpha	11/22/93	1.000E+00 mCi	0	1.000E+00	3.700E+01	Dupont NEN Research Products	DADA1593A0014
7259	P-32	dCTP,ALPHA	12/13/93	2.500E-01 mCi	0	2.500E-01	9.250E+00	Dupont NEN Research Products	DADA1593A0014
7328	P-32	dCTP	12/28/93	1.000E+00 mCi	0	1.000E+00	3.700E+01	Dupont NEN Research Products	DADA1593A0014
7394	P-32	ATP,GAMMA	01/21/94	2.500E-01 mCi	0	2.500E-01	9.250E+00	Dupont NEN Research Products	DADA1593A0014
7143	P-33	ATP,GAMMA	11/08/93	2.500E-01 mCi	0	2.500E-01	9.250E+00	Amersham Corporation	DADA1593P4039
7227	P-33	ATP,GAMMA	12/06/93	2.500E-01 mCi	0	2.500E-01	9.250E+00	Dupont NEN Research Products	DADA1593P4039

Records Processed

Rec Current

?NR47136 P-32 dCTP 02/03/94 1.0 MCi 2.5 X 10E-1 DUPONT NEN
04/94

Signature: D. E. Nicholson Date: 02/24/94

CHAMMP Report

DEC 13 1993 13:21:54

Receipts in Inventory by Activity for Internal License 646(Tseng, Yueh-Chu)

Key	Radio-Nuclide	Chemical/Physical Form	Receipt Date	Receipt Activity	Current Activity	Inventory Activity(mCi)	Inventory Activity(MBq)	Supplier	P.O. Number
RMR45751	H-3	THYMIDINE	12/03/92	5.000E+00 mCi	0	5.000E+00	1.850E+02	Dupont NEN Research Products	DADA1593A0014
RMR45752	H-3	THYMIDINE	12/03/92	1.000E+00 mCi	~~1.0~~ 0	1.000E+00	3.700E+01	Amersham Dupont NEN Research Products	DADA1593A0014
RMR46489	I-125	ENDOTHELIN-1,2	06/04/93	2.000E-03 mCi	0.5×10^{-3}	2.000E-03	7.400E-02	Amersham Corporation	DADA1593P9081
RMR46425	I-125	ENDOTHELIN-1	05/20/93	5.000E-02 mCi	~~0~~ .012	1.200E-02	4.440E-01	Dupont NEN Research Products	DADA1593A0014
RMR47017	I-125	ANF	10/07/93	2.000E-02 mCi	0.01	2.000E-02	7.400E-01	Dupont NEN Research Products	DADA1593A0014

0.02

5 Records Processed

Signature: D. E. Nicholson Date: 12/15/93

10/26/93

AUTHORIZATION ISOTOPE INVENTORY

(The Principle User's signature on the bottom of this form indicates that a physical inventory of the isotopes listed has been performed.)

Authorization Number 511

HPO TAG NO	CHEMICAL FORM	ORIGINAL DATE RECEIVED	ACTIVITY IN MILLICURIES ORIGINAL	ENTER CURRENT	LAST UPDATED	VENDOR	PURCHASE ORDER NUMBER	CALL NO	REMARKS
	Audit 11/1/93								
Total millicuries H-3									
45816	THYMIDINE	12/17/92	0.2500	0. ~~250~~	0.2500	NEN DUPONT	DADA1593A001	12CI0	
	Total Activity		0.2500	0. ~~250~~		Isotope Possesion Limit		10.0000	
Total millicuries NONRAD									
45956	DNA POLYMERASE	09/21/93	0.0000		0.0000	NEN DUPONT	DADA1593A001		
	Total Activity		0.0000			Isotope Possesion Limit		0.0000	
Total millicuries P-32									
45719	dCTP	07/27/93	1.0000	0	0.5000	NEN DUPONT	DADA1593P287		REPLACEMENT
45727	dCTP	07/30/93	0.5000		0.5000	NEN DUPONT	DADA1593AOO	7CI02	
45728	dGTP	07/30/93	0.5000		0.5000	NEN DUPONT	DADA1593AOO	7CI02	
45729	dATP	07/30/93	0.5000		0.5000	NEN DUPONT	DADA1593AOO	7CI02	
45730	TTP	07/30/93	0.5000		0.5000	NEN DUPONT	DADA1593AOO	7CI02	
45767	dCTP	08/06/93	0.2500		0.2500	NEN DUPONT	DADA1593P287		
45826	dCTP	08/20/93	1.0000		1.0000	NEN DUPONT	DADA1593P287		
45897	dCTP	09/10/93	1.0000		1.0000	NEN DUPONT	DADA1593P287		
45899	dCTP	09/10/93	1.0000		1.0000	NEN DUPONT	DADA1593A001	9CI01	
45947	dCTP	09/20/93	1.0000		1.0000	NEN DUPONT	DADA1593A001		
45948	dATP	09/20/93	1.0000		1.0000	NEN DUPONT	DADA1593A001		
45967	dATP	09/24/93	0.2500		0.2500	NEN DUPONT	DADA1593P548		
45969	dCTP	09/24/93	1.0000		1.0000	NEN DUPONT	DADA1593A001	9CI04	
45970	dATP	09/24/93	1.0000		1.0000	NEN DUPONT	DADA1593A001	9CI04	
	Total Activity		10.5000			Isotope Possesion Limit		20.0000	
Total millicuries P-33									
46623	ATP,GAMMA	07/07/93	0.2500	0	0.1000	NEN DUPONT	DADA1593P403		
46633	dATP	07/08/93	0.2500		0.1000	NEN DUPONT	DADA1593P724		
46771	ATP,GAMMA	08/09/93	0.2500		0.2500	NEN DUPONT	DADA1593P403		
46772	dATP	08/09/93	0.2500		0.2500	NEN DUPONT	DADA1593P724		
46886	ATP	09/08/93	0.2500		0.2500	NEN DUPONT	DADA1593P403		
47009	ATP	10/04/93	0.2500		0.2500	NEN DUPONT	DADA1593P403		
	Total Activity		1.5000			Isotope Possesion Limit		20.0000	
Total millicuries S-35									
45449	dATP	10/05/92	0.2500	0	0.2500	AMERSHAM	DADA1592P127		
46215	dATP X 2	04/08/93	0.5000	0	0.2500	NEN DUPONT	DADA1593A001	4CI01	
	Total Activity		0.7500	0		Isotope Possesion Limit		10.0000	

Signature Jeanne K Martin Date Nov 1-93

10/26/93

AUTHORIZATION ISOTOPE INVENTORY

(The Principle User's signature on the bottom of this form indicates that a physical inventory of the isotopes listed has been performed.)

Authorization Number 615

HPO TAG NO	CHEMICAL FORM	ORIGINAL DATE RECEIVED	ACTIVITY IN MILLICURIES ORIGINAL	ENTER CURRENT	LAST UPDATED	VENDOR	PURCHASE ORDER NUMBER	CALL NO	REMARKS
Audit 11/1/93									
Total millicuries P-32									
3705	ATP,GAMMA	07/23/93	5.0000	0	0.5000	NEN DUPONT	DADA1593P208		
3766	dATP	08/06/93	0.2500		0.2500	NEN DUPONT	DADA1593P548		
3827	dATP	08/20/93	0.2500		0.2500	NEN DUPONT	DADA1593P548		
3828	ATP,GAMMA	08/20/93	5.0000		5.0000	NEN DUPONT	DADA1593P208		
3900	dATP	09/10/93	0.2500		0.2500	NEN DUPONT	DADA1593P548		
3968	dCTP	09/24/93	1.0000		1.0000	NEN DUPONT	DADA1593P287		
3971	ATP,GAMMA	09/24/93	5.0000		5.0000	NEN DUPONT	DADA1593P208		
3999	dATP	10/01/93	0.2500		0.2500	NEN DUPONT	DADA1593P548		
7043	dATP	10/15/93	0.2500		0.2500	NEN DUPONT	DADA1593P548		
7082	ATP,GAMMA	10/25/93	5.0000	5.0	5.0000	NEN DUPONT	DADA1593P208		
7102	Total Activity		22.2500	5.25	Isotope Possesion Limit			20.0000	
				0.25					

Signature Jane L Martin Date Nov 1-93

07/28/93

AUTHORIZATION ISOTOPE INVENTORY

(The Principle User's signature on the bottom of this form indicates that a physical inventory of the isotopes listed has been performed.)

Authorization Number 511

HPO TAG NO	CHEMICAL FORM	ORIGINAL DATE RECEIVED	ACTIVITY IN MILLICURIES ORIGINAL	ACTIVITY IN MILLICURIES ENTER CURRENT	ACTIVITY IN MILLICURIES LAST UPDATED	VENDOR	PURCHASE ORDER NUMBER	CALL NO	REMARKS
Total millicuries C-14									
46216	CHLORPHENICOLX2	04/08/93	0.1000	0.05	0.0000	NEN DUPONT	DADA1593A001	4CI01	
	Total Activity		0.1000	0.05		Isotope Possesion Limit		15.0000	
Total millicuries H-3									
45816	THYMIDINE	12/17/92	0.2500	0.25	0.2500	NEN DUPONT	DADA1593A001	12CI0	
	Total Activity		0.2500	0.25		Isotope Possesion Limit		10.0000	
Total millicuries P-32									
45975	dCTP	02/05/93	1.0000	0	0.0000	NEN DUPONT	DADA1593P287		
46032	dCTP	02/19/93	1.0000	0	0.0000	NEN DUPONT	DADA1593P287		
46086	dCTP	03/05/93	1.0000	0	0.0000	NEN DUPONT	DADA1593P287		
46092	dATP	03/08/93	0.2500	0	0.0000	NEN DUPONT	DADA1593A001		
46141	dCTP	03/19/93	1.0000	0	0.0000	NEN DUPONT	DADA1593P287		
46223	dCTP	04/09/93	1.0000	0	0.0000	NEN DUPONT	DADA1593P287		
46300	dCTP	04/23/93	1.0000	0	0.0000	NEN DUPONT	DADA1593P287		
46301	ATP,GAMMA	04/23/93	5.0000	0	5.0000	NEN DUPONT	N/A		
46349	dCTP	05/07/93	1.0000	0	1.0000	NEN DUPONT	DADA1593P287		
46429	dCTP	05/21/93	1.0000	0	1.0000	NEN DUPONT	DADA1593P287		
46488	dCTP	06/04/93	1.0000	0	1.0000	NEN DUPONT	DADA1593P287		
46546	dCTP	06/18/93	1.0000	0	1.0000	NEN DUPONT	DADA1593P287		
46640	dCTP	07/09/93	1.0000	0	1.0000	NEN DUPONT	DADA1593P287		
46704	dCTP	07/23/93	1.0000	0	1.0000	NEN DUPONT	DADA1593P287		
46719	dCTP	07/27/93	1.0000	0.5	1.0000	NEN DUPONT	DADA1593P287		REPLACEMENT
	Total Activity		18.2500	0.5		Isotope Possesion Limit		20.0000	
Total millicuries P-33									
45989	dATP	02/08/93	0.2500	0	0.0000	NEN DUPONT	DADA1593A001	2CI01	
45990	ATP,GAMMA	02/08/93	0.2500	0	0.0000	NEN DUPONT	DADA1593P403		
46093	ATP	03/08/93	0.2500	0	0.0000	NEN DUPONT	DADA1593P403		
46190	ATP,GAMMA	04/05/93	0.2500	0	0.2500	NEN DUPONT	DADA1593P403		
46214	dATP	04/08/93	0.2500	0	0.0000	NEN DUPONT	DADA1593A001	4CI02	
46361	ATP	05/10/93	0.2500	0	0.2500	NEN DUPONT	DADA1593P403		
46362	dATP	05/10/93	0.2500	0	0.2500	NEN DUPONT	DADA1593A001	5CI01	
46447	dATP	05/27/93	0.2500	0	0.2500	NEN DUPONT	DADA1593P724		
46498	ATP,GAMMA	06/07/93	0.2500	0	0.2500	NEN DUPONT	DADA1593P403		
46514	ATP,ALPHA	06/10/93	0.2500	0	0.2500	NEN DUPONT	DADA1593P724		
46623	ATP,GAMMA	07/07/93	0.2500	0.1	0.2500	NEN DUPONT	DADA1593P403		
46633	dATP	07/08/93	0.2500	0.1	0.2500	NEN DUPONT	DADA1593P724		
	Total Activity		3.0000	0.2		Isotope Possesion Limit		20.0000	
Total millicuries S-35									
45449	dATP	10/05/92	0.2500	0.25	0.2500	AMERSHAM	DADA1592P127		
46215	dATP X 2	04/08/93	0.5000	0.25	0.5000	NEN DUPONT	DADA1593A001	4CI01	
	Total Activity		0.7500	0.5		Isotope Possesion Limit		10.0000	

Signature J. Chow, PhD Date 8/10/93

AUTHORIZATION ISOTOPE INVENTORY

04/30/93

(The Principle User's signature on the bottom of this form indicates that a physical inventory of the isotopes listed has been performed.)

Authorization Number 511

HPO TAG NO	CHEMICAL FORM	ORIGIONAL DATE RECEIVED	ORIGIONAL ACTIVITY IN MILLICURIES	ENTER CURRENT ACTIVITY IN MILLICURIES	LAST UPDATED ACTIVITY IN MILLICURIES	VENDOR	PURCHASE ORDER NUMBER	CALL NO	REMARKS
Audit 5/3/93									
Total millicuries C-14									
44376	CHLORPHENICOLX2	03/23/92	0.1000	0	0.0750	NEN DUPONT	DADA1590A0014	3CI02	
45657	CHLORPHENICOLX2	11/12/92	0.1000	0	0.1000	NEN DUPONT	DADA1593A0014	11CI0	
46216	CHLORPHENICOLX2	04/08/93	0.1000	0	0.1000	NEN DUPONT	DADA1593A0014	4CI01	
	Total activity		0.3000	0	Isotope possession limit		15.0000		
Total millicuries H-3									
45816	THYMIDINE	12/17/92	0.2500	0.250	0.2500	NEN DUPONT	DADA1593A0014	12CI0	
	Total activity		0.2500	0.250	Isotope possession limit		10.0000		
Total millicuries P-32									
45409	dATP	09/25/92	0.5000	0	0.5000	NEN DUPONT	DADA1591PD849		
45434	dCTP	10/02/92	1.0000		1.0000	NEN DUPONT	DADA1582P0946		
45528	ATP	10/16/92	5.0000		5.0000	NEN DUPONT	DADA1592P0231		
45529	dCTP	10/19/92	1.0000		1.0000	NEN DUPONT	DADA1592P0946		
45575	ATP,GAMMA	10/30/92	5.0000		5.0000	NEN DUPONT	DADA1592P0231		
45625	ATP,GAMMA	11/06/92	5.0000		5.0000	NEN DUPONT	DADA1592P0231		
45658	ATP,GAMMA	11/13/92	5.0000		5.0000	NEN DUPONT	DADA1592P0231		
45661	dATP	11/13/92	0.2500		0.2500	NEN DUPONT	DADA1593A0014	11CI0	
45698	dCTP	11/20/92	1.0000		1.0000	NEN DUPONT	N/A		
45754	dCTP	12/04/92	1.0000		1.0000	NEN DUPONT	DADA1593A0014	12CI0	
45790	ATP	12/14/92	5.0000		5.0000	NEN DUPONT	DADA1593A0014	12CI0	
45820	ATP,GAMMA	12/18/92	5.0000	0	5.0000	NEN DUPONT	DADA1593P2086		
45891	dCTP	01/08/93	1.0000		1.0000	NEN DUPONT	DADA1593P2875		
45936	dCTP	01/22/93	1.0000		1.0000	NEN DUPONT	DADA1593P2875		
45954	ATP,GAMMA	01/29/93	5.0000		5.0000	NEN DUPONT	DADA1593P3875		
45975	dCTP	02/05/93	1.0000		1.0000	NEN DUPONT	DADA1593P2875		
46032	dCTP	02/19/93	1.0000		1.0000	NEN DUPONT	DADA1593P2875		
46086	dCTP	03/05/93	1.0000		1.0000	NEN DUPONT	DADA1593P2875		
46092	dATP	03/08/93	0.2500		0.2500	NEN DUPONT	DADA1593A0014		
46141	dCTP	03/19/93	1.0000		1.0000	NEN DUPONT	DADA1593P2875		
46223	dCTP	04/09/93	1.0000		1.0000	NEN DUPONT	DADA1593P2875		
46300	dCTP	04/23/93	1.0000		1.0000	NEN DUPONT	DADA1593P2875		
46301	ATP,GAMMA	04/23/93	5.0000	5.0	5.0000	NEN DUPONT	N/A		
	Total activity		53.0000	5.0	Isotope possession limit		20.0000		
Total millicuries P-33									
45659	dCTP	11/13/92	0.2500	0	0.2500	NEN DUPONT	DADA1593A0014	11CI0	
45660	dATP	11/13/92	0.2500	0	0.2500	NEN DUPONT	DADA1593A0014	11CI0	

HPO TAG NO	CHEMICAL FORM	ORIGIONAL DATE RECEIVED	ORIGIONAL ACTIVITY IN MILLICURIES	ENTER CURRENT ACTIVITY IN MILLICURIES	LAST UPDATED ACTIVITY IN MILLICURIES	VENDOR	PURCHASE ORDER NUMBER	CALL NO	REMARKS
5699	dCTP	11/20/92	0.2500	0	0.2500	NEN DUPONT	DADA1593A0014	11CI0	REPLACEMENT
5780	ATP,GAMMA	12/10/92	0.2500	0	0.2500	NEN DUPONT	DADA1593A0014	12CI0	
5792	dATP	12/14/92	0.2500	0	0.2500	NEN DUPONT	DADA1593A0014	12CI0	
5989	dATP	02/08/93	0.2500	0	0.2500	NEN DUPONT	DADA1593A0014	2CI01	
5990	ATP,GAMMA	02/08/93	0.2500	0	0.2500	NEN DUPONT	DADA1593P4039		
6093	ATP	03/08/93	0.2500	0	0.2500	NEN DUPONT	DADA1593P4039		
6190	ATP,GAMMA	04/05/93	0.2500	0.25	0.2500	NEN DUPONT	DADA1593P4039		
6214	dATP	04/08/93	0.2500	0	0.2500	NEN DUPONT	DADA1593A0014	4CI02	
	Total activity		2.5000	0.25	Isotope possession limit		20.0000		

Total millicuries S-35

5449	dATP	10/05/92	0.2500	0	0.2500	AMERSHAM	DADA1592P1277	
6215	dATP X 2	04/08/93	0.5000	0	0.5000	NEN DUPONT	DADA1593A0014	4CI01
	Total activity		0.7500	0	Isotope possession limit		10.0000	

Signature Jane Martin Date 5/3/93

AUTHORIZATION ISOTOPE INVENTORY

10/29/92

(The Principle User's signature on the bottom of this form indicates that
a physical inventory of the isotopes listed has been performed.)

Authorization Number 511

HPO TAG NO	CHEMICAL FORM	ORIGIONAL DATE RECEIVED	ORIGIONAL ACTIVITY IN MILLICURIES	ENTER CURRENT ACTIVITY IN MILLICURIES	LAST UPDATED ACTIVITY IN MILLICURIES	VENDOR	PURCHASE ORDER NUMBER	CALL NO	REMARKS
	Audit 11/5/92								
Total millicuries C-14									
44376	CHLORPHENICOLX2	03/23/92	0.1000	0.075	0.0750	NEN DUPONT	DADA1590A0014	3CI02	
44968	CHLORPHENICOLX2	07/13/92	0.1000	0	0.1000	NEN DUPONT	DADA1590A0014	7CI01	
	Total activity		0.2000	0.075	Isotope possession limit		15.0000		
Total millicuries P-32									
44572	ATP,GAMMA	05/01/92	5.0000	0	5.0000	NEN DUPONT	DADA1592P0231		
44573	dCTP	05/01/92	1.0000	AUTH 637	1.0000	NEN DUPONT	DADA1592P0946		
44574	dATP	05/01/92	0.5000	0	0.5000	NEN DUPONT	DADA1591PD849		
44630	dCTP	05/08/92	1.0000		1.0000	NEN DUPONT	DADA1592P0946		
44631	ATP,GAMMA	05/08/92	5.0000		5.0000	NEN DUPONT	DADA1592P0231		
44663	dATP	05/15/92	0.5000		0.5000	NEN DUPONT	DADA1591PD849		
44664	ATP,GAMMA	05/15/92	5.0000		5.0000	NEN DUPONT	DADA1591P0231		
44707	dCTP	05/22/92	1.0000		1.0000	NEN DUPONT	DADA1592P0946		
44708	ATP,GAMMA	05/22/92	5.0000		5.0000	NEN DUPONT	DADA1592P0231		
44729	ATP,GAMMA	05/29/92	5.0000		5.0000	NEN DUPONT	DADA1592P0231		
44730	dATP	05/29/92	0.5000		0.5000	NEN DUPONT	DADA1591PD849		
44789	ATP,GAMMA	06/05/92	5.0000		5.0000	NEN DUPONT	DADA1592P0231		
44790	dCTP	06/05/92	1.0000	AUTH 637 0.200	1.0000	NEN DUPONT	DADA1592P0946		
44827	ATP	06/12/92	5.0000	0	5.0000	NEN DUPONT	DADA1592P0231		
44829	dATP	06/12/92	0.5000		0.5000	NEN DUPONT	DADA1591PD849		
44863	dCTP	06/19/92	1.0000		1.0000	NEN DUPONT	DADA1592P0946		
44891	ATP	06/26/92	5.0000		5.0000	NEN DUPONT	DADA1592P0231		
44892	dATP	06/26/92	0.5000		0.5000	NEN DUPONT	DADA1591PD849		
44954	ATP,GAMMA	07/10/92	5.0000		2.5000	NEN DUPONT	DADA1592P1584		2.5 mCi TO 637
44955	dATP	07/10/92	0.5000		0.5000	NEN DUPONT	DADA1591PD849		
45011	ATP,GAMMA	07/17/92	5.0000		5.0000	NEN DUPONT	DADA1592P0231		
45012	dCTP	07/17/92	1.0000		1.0000	NEN DUPONT	DADA1592P0946		
45049	dATP	07/24/92	0.5000		0.5000	NEN DUPONT	DADA1591PD849		
45092	ATP,GAMMA	07/31/92	5.0000		5.0000	NEN DUPONT	DADA1592P0231		
45149	dATP	08/07/92	0.5000		0.5000	NEN DUPONT	DADA1591PD849		
45161	dCTP	08/07/92	1.0000		1.0000	NEN DUPONT	DADA1592P0946		
45189	ATP,GAMMA	08/14/92	5.0000		5.0000	NEN DUPONT	DADA1592P0231		
45222	dCTP	08/21/92	1.0000		1.0000	NEN DUPONT	DADA1592P0946		
45223	dATP	08/21/92	0.5000		0.5000	NEN DUPONT	DADA1591PD849		
45263	ATP,GAMMA	08/28/92	5.0000		5.0000	NEN DUPONT	DADA1592P0231		
45326	ATP,GAMMA	09/09/92	5.0000		5.0000	NEN DUPONT	DADA1592P0231	REPL	
45327	dCTP	09/09/92	1.0000	AUTH 637	1.0000	NEN DUPONT	DADA1592P0946	REPL	
45328	dATP	09/09/92	0.5000	0	0.5000	NEN DUPONT	DADA1591P0849	REPL	
45343	ATP,GAMMA	09/11/92	5.0000	0	5.0000	NEN DUPONT	DADA1591P0231		
45375	dCTP	09/18/92	1.0000	0	1.0000	NEN DUPONT	DADA1592P0946		
45408	ATP,GAMMA	09/25/92	5.0000	0	5.0000	NEN DUPONT	DADA1592P0231		
45409	dATP	09/25/92	0.5000	0.50	0.5000	NEN DUPONT	DADA1591PD849		
45434	dCTP	10/02/92	1.0000	1.0	1.0000	NEN DUPONT	DADA1582P0946		
45435	ATP,GAMMA	10/02/92	5.0000	0	5.0000	NEN DUPONT	DADA1582P0231		
45493	ATP	10/09/92	5.0000	0	5.0000	NEN DUPONT	DADA1592P0231		
45528	ATP	10/16/92	5.0000	5.0	5.0000	NEN DUPONT	DADA1592P0231		
45529	dCTP	10/19/92	1.0000	1.0	1.0000	NEN DUPONT	DADA1592P0946		
45559	ATP,GAMMA	10/23/92	5.0000	0	5.0000	NEN DUPONT	DADA1592P0231		
45575 ATPG		10/30/92	5.0	5.0					

HPO TAG NO	CHEMICAL FORM	ORIGIONAL DATE RECEIVED	ORIGIONAL ACTIVITY IN MILLICURIES	ENTER CURRENT ACTIVITY IN MILLICURIES	LAST UPDATED ACTIVITY IN MILLICURIES	VENDOR	PURCHASE ORDER NUMBER	CALL NO	REMARKS
	Total activity		117.5000	12.5	Isotope possession limit		20.0000		
Total millicuries S-35									
44517	dATP	04/15/92	0.2500	0	0.2500	AMERSHAM	DADA1592P1277		
44534	METHIONINE	04/17/92	5.0000	0	5.0000	NEN DUPONT	DADA1593P0735		
44632	METHIONINE	05/08/92	5.0000	↓	5.0000	NEN DUPONT	DADA1593P0735		
44791	METHIONINE	06/05/92	5.0000	↓	5.0000	NEN DUPONT	DADA1593P0735		
44819.	dATP	06/10/92	0.2500	AUTH 637	0.2500	AMERSHAM	DADA1592P1277		
45121	dATP	08/04/92	0.2500	" 637	0.2500	AMERSHAM	DADA1592P1277		
45449	dATP	10/05/92	0.2500	0.250	0.2500	AMERSHAM	DADA1592P1277		
	Total activity		16.0000	0.25	Isotope possession limit		10.0000		

Signature [signature] Date 11/5/92

AUTHORIZATION ISOTOPE INVENTORY
(The Principle User's signature on the bottom of this form indicates that a physical inventory of the isotopes listed has been performed.)

Audit 5/6/92

HP TAG NUMBER	CHEMICAL FORM	DATE RECEIVED	ORIGINAL ACTIVITY IN MILLICURIES	NEW ACTIVITY IN MILLICURIES	LAST UPDATED ACTIVITY IN MILLICURIES	VENDOR	PURCHASE ORDER NUMBER	CALL NO	REMA
** Authorization Number: 511									
* Total Millicuries C-14									
43303	CHLORAMPHENICOL	12/03/91	0.0500	~~AUTH~~ 0	0.0200	NEN DUPONT	DADA1590A0014	11CI0	
44376	CHLORPHENICOLX2	03/23/92	0.1000	0.075	0.1000	NEN DUPONT	DADA1590A0014	3CI02	
* Subsubtotal *			0.1500		0.1200				
* Total Millicuries P-32									
43958	ATP,GAMMA	01/03/92	5.0000	0	0.0000	NEN DUPONT	DADA1592P0084		
43959	ATP,GAMMA	01/03/92	5.0000		0.0000	NEN DUPONT	DADA1592P0231		
43960	dCTP	01/03/92	1.0000		0.0000	NEN DUPONT	DADA1592P0946		
43961	dATP	01/03/92	0.5000		0.0000	NEN DUPONT	DADA1591PD849		
43995	ATP,GAMMA	01/10/92	5.0000		0.0000	NEN DUPONT	DADA1592P0231		
44031	dCTP	01/17/92	1.0000		0.0000	NEN DUPONT	DADA1592P0946		
44032	dATP	01/17/92	0.5000		0.0000	NEN DUPONT	DADA1591PD849		
44033	ATP,GAMMA	01/17/92	5.0000		0.0000	NEN DUPONT	DADA1592P0231		
44061	ATP,GAMMA	01/24/92	5.0000		0.0000	NEN DUPONT	DADA1592P0231		
44080	dCTP	01/31/92	1.0000		1.0000	NEN DUPONT	DADA1592P0946		
44081	ATP,GAMMA	01/31/92	5.0000		5.0000	NEN DUPONT	DADA1592P0231		
44082	dATP	01/31/92	0.5000		0.5000	NEN DUPONT	DADA1591PD849		
44136	ATP,GAMMA	02/07/92	5.0000		5.0000	NEN DUPONT	DADA1592P0231		
44138	dCTP	02/07/92	1.0000		1.0000	NEN DUPONT	DADA1592P0946		
44178	dATP	02/14/92	0.5000		0.5000	NEN DUPONT	DADA1591PD849		
44179	ATP,GAMMA	02/14/92	5.0000		5.0000	NEN DUPONT	DADA1592P0231		
44217	dCTP	02/21/92	1.0000		1.0000	NEN DUPONT	DADA1592P0946		
44218	ATP,GAMMA	02/21/92	5.0000		5.0000	NEN DUPONT	DADA1592P0231		
44234	ATP,GAMMA	02/28/92	5.0000		5.0000	NEN DUPONT	DADA1592P0231		
44235	dATP	02/28/92	0.5000		0.5000	NEN DUPONT	DADA1591PD849		
44268	dCTP	03/06/92	1.0000	AUTH 637 transferred	1.0000	NEN DUPONT	DADA1592P0946		
44269	ATP,GAMMA	03/06/92	5.0000	AUTH 637	5.0000	NEN DUPONT	DADA1592P0231		
44270	dATP	03/06/92	0.5000	0	0.5000	NEN DUPONT	DADA1591PD849		
44316	ATP,GAMMA	03/13/92	5.0000		5.0000	NEN DUPONT	DADA1592P0231		
44362	dCTP	03/20/92	1.0000		1.0000	NEN DUPONT	DADA1592P0946		
44363	dATP	03/20/92	0.5000		0.5000	NEN DUPONT	DADA1591PD849		
44364	ATP,GAMMA	03/20/92	5.0000		5.0000	NEN DUPONT	DADA1592P0231		
44403	ATP,GAMMA	03/27/92	5.0000		5.0000	NEN DUPONT	DADA1592P0231		
44431	dCTP	04/03/92	1.0000	AUTH 637	1.0000	NEN DUPONT	DADA1592P0946		
44432	ATP,GAMMA	04/03/92	5.0000	AUTH 637	5.0000	NEN DUPONT	DADA1592P0231		
44433	dATP	04/03/92	0.5000	0	0.5000	NEN DUPONT	DADA1591PD849		
44503	ATP,GAMMA	04/10/92	5.0000		5.0000	NEN DUPONT	DADA1592P0231		
44531	dCTP	04/17/92	1.0000		1.0000	NEN DUPONT	DADA1592P0946		
44532	ATP,GAMMA	04/17/92	5.0000		5.0000	NEN DUPONT	DADA1592P0231		
44533	dATP	04/17/92	0.5000		0.5000	NEN DUPONT	DADA1591PD849		

44557 → 0
44572 → 5.0
44573 → 1.0
44574 → 0.500

Jesse L Martin
5/6/92

AUTHORIZATION ISOTOPE INVENTORY
(The Principle User's signature on the bottom of this form indicates that a physical inventory of the isotopes listed has been performed.)

HP() TAG NUMBER	CHEMICAL FORM	DATE RECEIVED	ORIGINAL ACTIVITY IN MILLICURIES	NEW ACTIVITY IN MILLICURIES	LAST UPDATED ACTIVITY IN MILLICURIES	VENDOR	PURCHASE ORDER NUMBER	CALL NO	REMA
44557	ATP,GAMMA	04/24/92	5.0000	0	5.0000	NEN DUPONT	DADA1592P0231		
* Subsubtotal *			103.5000		75.5000				
* Total Millicuries P-33									
44304	ATP,GAMMA	03/12/92	0.2500	0	0.2500	NEN DUPONT	N/A		
* Subsubtotal *			0.2500		0.2500				
* Total Millicuries S-35									
43957	METHIONINE	01/03/92	5.0000	0	5.0000	NEN DUPONT	DADA1593P0735		
44104	dATP	02/04/92	0.2500	0	0.2500	AMERSHAM	DADA1592P1277		
44137	METHIONINE	02/07/92	5.0000	0	5.0000	NEN DUPONT	DADA1593P0735		
44271	METHIONINE	03/06/92	5.0000	0	5.0000	NEN DUPONT	DADA1593P0735		
44517	dATP	04/15/92	0.2500	0.250	0.2500	AMERSHAM	DADA1592P1277		
44534	METHIONINE	04/17/92	5.0000	0 5.0	5.0000	NEN DUPONT	DADA1593P0735		
* Subsubtotal *			20.5000		20.5000				
** Subtotal **			124.4000		96.3700				
*** Total ***			124.4000		96.3700				

AUTHORIZATION ISOTOPE INVENTORY

(The Principle User's signature on the bottom of this form indicates that a physical inventory of the isotopes listed has been performed.)

HP TAG NUMBER	CHEMICAL FORM	DATE RECEIVED	ORIGINAL ACTIVITY IN MILLICURIES	NEW ACTIVITY IN MILLICURIES	LAST UPDATED ACTIVITY IN MILLICURIES	VENDOR	PURCHASE ORDER NUMBER	CALI NO
** Authorization Number: 511								
* Total Millicuries C-14								
43803	CHLORAMPHENICOL	12/03/91	0.0500		0.0500	NEN DUPONT	DADA1590A0014	11C
* Subsubtotal *								
			0.0500	0.020	0.0500			
* Total Millicuries P-32								
43650	dATP	11/01/91	0.5000	0	0.5000	NEN DUPONT	DADA1591PD849	
43671	ATP,GAMMA	11/05/91	5.0000	0	5.0000	NEN DUPONT	DADA1592P0231	
43698	dCTP	11/08/91	1.0000	0	1.0000	NEN DUPONT	DADA1590MA193	
43699	dATP	11/08/91	0.5000	0	0.5000	NEN DUPONT	DADA1591PD849	
43740	dCTP	11/15/91	1.0000	0	1.0000	NEN DUPONT	DADA1592P0946	
43741	ATP,GAMMA	11/15/91	5.0000	0	5.0000	NEN DUPONT	DADA1592P0231	
43763	dATP	11/22/91	0.5000	0	0.5000	NEN DUPONT	DADA1591PD849	
43765	ATP,GAMMA	11/25/91	5.0000	0	5.0000	NEN DUPONT	DADA1592P0084	
43766	ATP,GAMMA	11/25/91	5.0000	0	5.0000	NEN DUPONT	DADA1592P0231	
43824	dCTP	12/06/91	1.0000	0	1.0000	NEN DUPONT	DADA1592P0946	
43825	ATP,GAMMA	12/06/91	5.0000	0	5.0000	NEN DUPONT	DADA1592P0984	
43826	ATP,GAMMA	12/06/91	5.0000	0	5.0000	NEN DUPONT	DADA1592P0231	
43841	dATP	12/09/91	0.5000	0	0.5000	NEN DUPONT	DADA1591PD849	
43864	ATP,GAMMA	12/13/91	5.0000	0	5.0000	NEN DUPONT	DADA1592P0084	
43865	dATP	12/13/91	0.5000	0	0.5000	NEN DUPONT	DADA1591PD849	
43866	ATP,GAMMA	12/13/91	5.0000	0	5.0000	NEN DUPONT	DADA1592P0231	
43908	dCTP	12/20/91	1.0000	0	1.0000	NEN DUPONT	DADA1592P0946	
43958	ATP,GAMMA	01/03/92	5.0000	0	5.0000	NEN DUPONT	DADA1592P0084	
43959	ATP,GAMMA	01/03/92	5.0000	0	5.0000	NEN DUPONT	DADA1592P0231	
43960	dCTP	01/03/92	1.0000	0	1.0000	NEN DUPONT	DADA1592P0946	
43961	dATP	01/03/92	0.5000	0	0.5000	NEN DUPONT	DADA1591PD849	
43995	ATP,GAMMA	01/10/92	5.0000	0	5.0000	NEN DUPONT	DADA1592P0231	
44013	ATP,GAMMA	01/15/92	0.2500	0	0.2500	NEN DUPONT	6645377260600	
44031	dCTP	01/17/92	1.0000	0	1.0000	NEN DUPONT	DADA1592P0946	
44032	dATP	01/17/92	0.5000	0	0.5000	NEN DUPONT	DADA1591PD849	
44033	ATP,GAMMA	01/17/92	5.0000	0	5.0000	NEN DUPONT	DADA1592P0231	
44061	ATP,GAMMA	01/24/92	5.0000	0	5.0000	NEN DUPONT	DADA1592P0231	
* Subsubtotal *								
			74.7500		74.7500			
* Total Millicuries S-35								
43530	dATP	10/31/91	0.2500	0	0.2500	AMERSHAM	DADA1590A0041	10C
43848	dATP	12/10/91	0.2500	0	0.2500	AMERSHAM	DADA1592P1277	
43957	METHIONINE	01/03/92	5.0000	5	5.0000	NEN DUPONT	DADA1593P0735	

[signature] #511
3-11-92

AUTHORIZATION ISOTOPE INVENTORY
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HPU TAG NUMBER	CHEMICAL FORM	DATE RECEIVED	ORIGINAL ACTIVITY IN MILLICURIES	NEW ACTIVITY IN MILLICURIES	LAST UPDATED ACTIVITY IN MILLICURIES	VENDOR	PURCHASE ORDER NUMBER	CALL NO	REMA
audit 11/5/91									

** Authorization Number: 511

* Total Millicuries C-14

41767	CHLORAMPHENICOL	12/14/90	0.0500	0.0500	NEN DUPONT	DADA1590MA104
42061	CHLORAMPHENICOL	03/15/91	0.0500	0.0500	NEN DUPONT	DADA1590MA104
42730	CHLORAMPHENICOL	05/31/91	0.0500	0.0500	NEN DUPONT	DADA1590MA104
42794	CHLORAMPHENICOL	06/06/91	0.0500	0.0500	NEN DUPONT	8564377500200
42796	CHLORAMPHENICOL	06/06/91	0.0250	0.0250	TRANS FRM USUHS	511
* Subsubtotal *			0.2250	0.2250		

* Total Millicuries P-32

42051	dATP	02/08/91	0.5000	0.5000	NEN DUPONT	DADA1590MA644
42167	dCTP	03/01/91	1.0000	1.0000	NEN DUPONT	DADA1590MA193
42168	ATP, GAMMA	03/01/91	5.0000	5.0000	NEN DUPONT	DADA1590M9649
42218	ATP	03/08/91	1.0000	1.0000	NEN DUPONT	DADA1590M9526
42219	dCTP	03/08/91	1.0000	1.0000	NEN DUPONT	DADA1590MA647
42220	dATP	03/08/91	0.5000	0.5000	NEN DUPONT	DADA1590MA644
42262	ATP,GAMMA	03/15/91	5.0000	5.0000	NEN DUPONT	DADA1590M9649
42293	ATP, GAMMA	03/22/91	5.0000	5.0000	NEN DUPONT	DADA1590M9649
42334	dCTP	03/29/91	1.0000	1.0000	NEN DUPONT	DADA1590MA193
42335	ATP, GAMMA	03/29/91	5.0000	5.0000	NEN DUPONT	DADA1590M9649
42336	dCTP	03/29/91	1.0000	1.0000	NEN DUPONT	DADA1590MA193
42396	dCTP	04/05/91	1.0000	1.0000	NEN DUPONT	DADA1590MA647
42417	dATP	04/08/91	0.5000	0.5000	NEN DUPONT	DADA1590MA644
42426	ATP	04/10/91	1.0000	1.0000	NEN DUPONT	DADA1590M9526
42445	ATP,GAMMA	04/12/91	5.0000	5.0000	NEN DUPONT	DADA1590M9649
42484	ATP,GAMMA	04/19/91	5.0000	5.0000	NEN DUPONT	DADA1590M9649
42518	dCTP	04/26/91	1.0000	1.0000	NEN DUPONT	DADA1590MA193
42519	ATP,GAMMA	04/26/91	5.0000	5.0000	NEN DUPONT	DADA1590M9649
42572	dCTP	05/03/91	1.0000	1.0000	NEN DUPONT	DADA1590MA647
42573	ATP, GAMMA	05/03/91	1.0000	1.0000	NEN DUPONT	DADA1590M9526
42574	dATP	05/03/91	0.5000	0.5000	NEN DUPONT	DADA1590MA644
42621	ATP	05/10/91	5.0000	5.0000	NEN DUPONT	DADA1590M9649
42651	ATP, GAMMA	05/17/91	5.0000	5.0000	NEN DUPONT	DADA1590M9649
42687	dCTP	05/24/91	1.0000	1.0000	NEN DUPONT	DADA1590MA193
42688	ATP	05/24/91	5.0000	5.0000	NEN DUPONT	DADA1590M9649
42729	dCTP	05/31/91	1.0000	1.0000	NEN DUPONT	DADA1590MA193
42800	dCTP	06/07/91	1.0000	1.0000	NEN DUPONT	DADA1590MA647
42801	ATP, GAMMA	06/07/91	1.0000	1.0000	NEN DUPONT	DADA1590M9526
42802	dATP	06/07/91	0.5000	0.5000	NEN DUPONT	DADA1590MA644
42838	ATP, GAMMA	06/14/91	5.0000	5.0000	NEN DUPONT	DADA1590M9649
42876	ATP, GAMMA	06/21/91	5.0000	5.0000	NEN DUPONT	DADA1590M9649
42930	dCTP alpha	06/28/91	1.0000	1.0000	NEN DUPONT	DADA1590MA193

Jane L Martin
11/5/91

AUTHORIZATION ISOTOPE INVENTORY
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HPD TAG NUMBER	CHEMICAL FORM	DATE RECEIVED	ORIGINAL ACTIVITY IN MILLICURIES	NEW ACTIVITY IN MILLICURIES	LAST UPDATED ACTIVITY IN MILLICURIES	VENDOR	PURCHASE ORDER NUMBER	CALL NO	REMA
42031	ATP gamma	06/28/91	5.0000		5.0000	NEN DUPONT	DADA1590M9649		
43016	ATP	07/12/91	5.0000		5.0000	NEN DUPONT	DADA1590M9649		
43044	ATP, GAMMA	07/19/91	5.0000		5.0000	NEN DUPONT	DADA1590M9649		
43088	ATP,GAMMA	07/26/91	5.0000		5.0000	NEN DUPONT	DADA1590M9649		
43089	dCTP	07/26/91	1.0000		1.0000	NEN DUPONT	DADA1590MA193		
43122	dATP	08/02/91	0.5000		0.5000	NEN DUPONT	DADA1590MA644		
43123	dCTP	08/02/91	1.0000		1.0000	NEN DUPONT	DADA1590MA647		
43124	ATP, GAMMA	08/02/91	1.0000		1.0000	NEN DUPONT	DADA1590M9526		
43183	ATP, GAMMA	08/09/91	5.0000		5.0000	NEN DUPONT	DADA1590M9649		
43228	ATP,GAMMA	08/16/91	5.0000		5.0000	NEN DUPONT	DADA1590M9649		
43264	ATP, GAMMA	08/23/91	5.0000		5.0000	NEN DUPONT	DADA1590M9649		
43265	dCTP	08/23/91	1.0000		1.0000	NEN DUPONT	DADA1590MA193		
43293	dCTP	08/30/91	1.0000		1.0000	NEN DUPONT	DADA1590MA193		
43336	ATP	09/06/91	1.0000		1.0000	NEN DUPONT	DADA1590M9526		
43337	dATP	09/06/91	0.5000		0.5000	NEN DUPONT	DADA1590MA644		
43373	ATP, GAMMA	09/13/91	5.0000		5.0000	NEN DUPONT	DADA1590M9649		
43412	ATP, GAMMA	09/20/91	5.0000		5.0000	NEN DUPONT	DADA1590M9649		
43413	dATP	09/20/91	0.5000		0.5000	NEN DUPONT	DADA1591PD849		
43460	dCTP	09/27/91	1.0000		1.0000	NEN DUPONT	DADA1590MA193		
43461	ATP, GAMMA	09/27/91	5.0000		5.0000	NEN DUPONT	DADA1590M9649		
43512	ATP, GAMMA	10/04/91	1.0000		1.0000	NEN DUPONT	DADA1590M9526		
43513	dATP	10/04/91	0.5000		0.5000	NEN DUPONT	DADA1590MA644		
43514	dATP	10/04/91	0.5000	0.500	0.5000	NEN DUPONT	DADA1591PD849		
43543	ATP, GAMMA	10/11/91	5.0000	0	5.0000	NEN DUPONT	DADA1590M9649		
43545	dCTP	10/11/91	1.0000	0	1.0000	NEN DUPONT	DADA1590MA193		
43581	dATP	10/18/91	0.5000	0.5	0.5000	NEN DUPONT	DADA1591PD849		
43582	ATP	10/18/91	5.0000		5.0000	NEN DUPONT	DADA1590M9649		
43583	dCTP	10/18/91	1.0000		1.0000	NEN DUPONT	8645377260200		
43610	ATP, GAMMA	10/25/91	5.0000		5.0000	NEN DUPONT	DADA1590M9649		
43611	dCTP	10/25/91	1.0000		1.0000	NEN DUPONT	DADA1590MA193		
* Subsubtotal *			156.5000		156.5000				
** Subtotal **			156.7250		156.7250				
*** Total ***			156.7250		156.7250				

4 3650 dATP 0.50

AUTHORIZATION ISOTOPE INVENTORY

HPO TAG NUMBER	CHEMICAL FORM	DATE RECEIVED	ORIGINAL ACTIVITY IN MILLICURIES	NEW ACTIVITY IN MILLICURIES	LAST UPDATED ACTIVITY IN MILLICURIES	VENDOR	PURCHASE ORDER NUMBER	CALL NO	REMA
Audit 5MAR91									
** Authorization Number: 511									
* Total Millicuries C-14									
41454	CHLORAMPHENICOL	10/12/90	0.0500	0	0.0500	NEN DUPONT	DADA1590MA104		
41767	CHLORAMPHENICOL	12/14/90	0.0500	0,050	0.0500	NEN DUPONT	DADA1590MA104		
* Subsubtotal *			0.1000		0.1000				
* Total Millicuries H-3									
41288	THYMIDINE	09/18/90	5.0000	0	5.0000	NEN DUPONT	DAMD1785A5005	W629	
* Subsubtotal *			5.0000		5.0000				
* Total Millicuries I-125									
41788	PRL	12/17/90	0.0100	0	0.0100	HAZLETON	DADA1589A0112	12CI0	CALL# 1
41789	TSH	12/17/90	0.0100	0	0.0100	HAZLETON	DADA1589A0112	12CI0	CALL# 1
* Subsubtotal *			0.0200		0.0200				
* Total Millicuries P-32									
40990	dATP	08/03/90	0.5000	0	0.0000	NEN DUPONT	DADA1589MB417		
41045	ATP,GAMMA	08/10/90	5.0000		0.0000	NEN DUPONT	DADA1590M3453		
41090	CTP	08/17/90	1.0000		0.0000	NEN DUPONT	DADA1589MB163		
41091	dCTP	08/17/90	1.0000		0.0000	NEN DUPONT	DADA1589MB060		
41092	dATP	08/17/90	0.5000		0.0000	NEN DUPONT	DADA1589MB417		
41125	ATP,GAMMA	08/24/90	5.0000		0.0000	NEN DUPONT	DADA1590M3453		
41162	dCTP	08/31/90	1.0000		0.0000	NEN DUPONT	DADA1589MB060		
41163	ATP	08/31/90	0.2500		0.0000	NEN DUPONT	DADA1589MB164		
41231	ATP, GAMMA	09/07/90	5.0000		5.0000	NEN DUPONT	DADA1590M3453		
41232	ATP	09/07/90	0.2500		0.2500	NEN DUPONT	DADA1589MB164		
41265	ATP,GAMMA	09/14/90	5.0000		5.0000	NEN DUPONT	DADA1590M3453		
41266	dCTP	09/14/90	1.0000		1.0000	NEN DUPONT	DADA1589MB060		
41267	ATP	09/14/90	0.2500		0.2500	NEN DUPONT	DADA1589MB164		
41325	CTP	09/21/90	1.0000		1.0000	NEN DUPONT	DADA1589MB163		
41340	dCTP	09/26/90	1.0000		1.0000	NEN DUPONT	DADA1589MA289		
41346	dCTP	09/28/90	1.0000		1.0000	NEN DUPONT	DADA1589MB060		
41347	ATP	09/28/90	0.2500		0.2500	NEN DUPONT	DADA1589MB164		
41417	dATP	10/05/90	0.5000		0.5000	NEN DUPONT	DADA1590MA644		
41418	ATP	10/05/90	1.0000		1.0000	NEN DUPONT	DADA1590M9562		
41419	dCTP	10/05/90	1.0000		1.0000	NEN DUPONT	DADA1590MA647		
41502	ATP, GAMMA	10/23/90	5.0000		5.0000	NEN DUPONT	8594377260200		
41535	dCTP	10/31/90	1.0000		1.0000	NEN DUPONT	8594377260200		
41548	dCTP	11/02/90	1.0000		1.0000	NEN DUPONT	DADA1590MA647		
41549	dATP	11/02/90	0.5000		0.5000	NEN DUPONT	DADA1590MA644		
41555	ATP	11/02/90	1.0000		1.0000	NEN DUPONT	DAMD1590M9526		
41609	ATP, GAMMA	11/09/90	5.0000		5.0000	NEN DUPONT	DADA1590M9649		
41637	ATP, GAMMA	11/16/90	5.0000		5.0000	NEN DUPONT	DADA1590M9649		

35-91

AUTHORIZATION ISOTOPE INVENTORY

HP() TAG NUMBER	CHEMICAL FORM	DATE RECEIVED	ORIGINAL ACTIVITY IN MILLICURIES	NEW ACTIVITY IN MILLICURIES	LAST UPDATED ACTIVITY IN MILLICURIES	VENDOR	PURCHASE ORDER NUMBER	CALL NO	REMA
41[illegible]69	ATP, GAMMA	11/26/90	5.0000	0	5.0000	NEN DUPONT	DADA1590M9649		
41[illegible]87	ATP	11/30/90	5.0000		5.0000	NEN DUPONT	DADA1590M9649		
41[illegible]91	dCTP	12/03/90	1.0000		1.0000	NEN DUPONT	DADA1590MA193		
41[illegible]30	ATP	12/07/90	1.0000		1.0000	NEN DUPONT	DADA1590M9526		
41[illegible]31	dATP	12/07/90	0.5000		0.5000	NEN DUPONT	DADA1590MA644		
41[illegible]32	dCTP	12/07/90	1.0000		1.0000	NEN DUPONT	DADA1590MA647		
41[illegible]66	ATP, GAMMA	12/14/90	5.0000		5.0000	NEN DUPONT	DADA1590M9649		
41804	ATP, GAMMA	12/21/90	5.0000		5.0000	NEN DUPONT	DADA1590M9649		
41853	dCTP	01/04/91	1.0000		1.0000	NEN DUPONT	DADA1590MA647		
41854	ATP	01/04/91	1.0000		1.0000	NEN DUPONT	DADA1590M9526		
41856	dATP	01/04/91	0.5000		0.5000	NEN DUPONT	DADA1590MA644		
41895	ATP, GAMMA	01/11/91	5.0000		5.0000	NEN DUPONT	DADA1590M9649		
41930	ATP, GAMMA	01/18/91	5.0000		5.0000	NEN DUPONT	DADA1590M9649		
41958	ATP,GAMMA	01/25/91	5.0000		5.0000	NEN DUPONT	DADA1590M9649		
42027	dCTP	02/06/91	1.0000		1.0000	NEN DUPONT	DADA1590MA193		
42050	ATP	02/08/91	1.0000		1.0000	NEN DUPONT	DADA1590M9526		
42051	dATP	02/08/91	0.5000	0.50	0.5000	NEN DUPONT	DADA1590MA644		
42052	dCTP	02/08/91	1.0000	0	1.0000	NEN DUPONT	DADA1590MA647		
42100	ATP, GAMMA	02/15/91	5.0000		5.0000	NEN DUPONT	DADA1590M9649		
42128	ATP, GAMMA	02/22/91	5.0000		5.0000	NEN DUPONT	DADA1590M9649		
* Subsubtotal *			104.5000		90.2500				
** Subtotal **			109.6200		95.3700				
*** Total ***			109.6200		95.3700				
42167	dCTP	3/1/91	1.0	1.0					
42168	ATP	"	5.0	5.0					

AUTHORIZATION ISOTOPE INVENTORY

HP() TAG NUMBER	CHEMICAL FORM	DATE RECEIVED	ORIGINAL ACTIVITY IN MILLICURIES	NEW ACTIVITY IN MILLICURIES	LAST UPDATED ACTIVITY IN MILLICURIES	VENDOR	PURCHASE ORDER NUMBER	CALL NO	REMA
Audit 9/13/90									
** Authorization Number: 511									
* Total Millicuries C-14									
39163	CHLORAMPHENICAL	11/15/89	0.0500	0	0.0500	NEN DUPONT	DADA1590M0705		
39461	CHLORAMPHENIOCA	12/26/89	0.0500	0	0.0500	NEN DUPONT	DADA1590M0705		
40029	CHLORAMPHENICOL	03/09/90	0.0500	0	0.0500	NEN DUPONT	DADA1590M0705		
* Subsubtotal *			0.1500		0.1500				
* Total Millicuries P-32									
40077	dATP	03/16/90	0.5000	0	0.5000	NEN DUPONT	DADA1589MB417		
40078	ATP	03/16/90	5.0000	0	5.0000	NEN DUPONT	DADA1590M3453		
40174	ADENOSINE	03/30/90	0.2500	0	0.2500	NEN DUPONT	DADA1589MB164		
40251	dATP	04/06/90	0.5000	0	0.5000	NEN DUPONT	DADA1589MB417		
40252	ATP	04/06/90	5.0000	0	5.0000	NEN DUPONT	DADA1590M3453		
40340	CYTIDINE	04/20/90	1.0000	0	1.0000	NEN DUPONT	DADA1589MB163		
40341	ATP	04/20/90	5.0000	0	5.0000	NEN DUPONT	DADA1590M3453		
40343	dATP	04/20/90	0.5000	0	0.5000	NEN DUPONT	DADA1589MB417		
40368	dCTP	04/25/90	1.0000	0	1.0000	NEN DUPONT	DADA1589MA289		
40375	ATP	04/27/90	0.2500	0	0.2500	NEN DUPONT	DADA1589MB164		
40449	dATP X 2	05/04/90	1.0000	0	1.0000	NEN DUPONT	DADA1589MB417		
40451	ATP	05/04/90	5.0000	0	5.0000	NEN DUPONT	DADA1590M3453		
40491	dCTP	05/11/90	1.0000	0	1.0000	NEN DUPONT	DADA1589MB060		
40494	ATP	05/11/90	5.0000	0	5.0000	NEN DUPONT	DADA1590M3453		
* Subsubtotal *			31.0000		31.0000				
* Total Millicuries C-14									
40496	CHLORAMPHENICOL	05/11/90	0.0500	0	0.0500	NEN DUPONT	DADA1590M0705		
* Subsubtotal *			0.0500		0.0500				
* Total Millicuries P-32									
40526	DEOXYCYTIDINE	05/16/90	1.0000	0	1.0000	NEN DUPONT	DADA1589MA289		
40538	ATP	05/18/90	5.0000	0	5.0000	NEN DUPONT	DADA1590M3453		
40540	CYTIDINE	05/18/90	1.0000	0	1.0000	NEN DUPONT	DADA1589MB163		
40541	dATP	05/18/90	0.5000	0	0.5000	NEN DUPONT	DADA1589MB417		
40571	DEOXYCYTIDINE	05/25/90	1.0000	0	1.0000	NEN DUPONT	DADA1589MB060		
40572	ADENOSINE	05/25/90	0.2500	0	0.2500	NEN DUPONT	DADA1589MB164		
40660	dATP	06/08/90	0.5000	0	0.5000	NEN DUPONT	DADA1589MB417		
40661	ATP	06/08/90	0.2500	missing 0	0.2500	NEN DUPONT	DADA1589MB164		
40663	ATP	06/08/90	5.0000	0	5.0000	NEN DUPONT	DADA1590M3453		
40690	ATP	06/15/90	5.0000	0	5.0000	NEN DUPONT	DADA1590M3453		
40731	dATP	06/25/90	0.5000	0	0.5000	NEN DUPONT	DADA1589MB417		
40753	dCTP	06/27/90	1.0000	0	1.0000	NEN DUPONT	DADA1589MA289		
40770	ATP	06/29/90	5.0000	0	5.0000	NEN DUPONT	DADA1590M3453		
40819	dATP	07/06/90	0.5000	0	0.5000	NEN DUPONT	DADA1589MB417		

AUTHORIZATION ISOTOPE INVENTORY

HPD TAG NUMBER	CHEMICAL FORM	DATE RECEIVED	ORIGINAL ACTIVITY IN MILLICURIES	NEW ACTIVITY IN MILLICURIES	LAST UPDATED ACTIVITY IN MILLICURIES	VENDOR	PURCHASE ORDER NUMBER	CALL NO	REMA
40729	CTP	06/25/90	1.0000	0	1.0000	NEN DUPONT	DADA1589MB163		
40324	dCTP	07/06/90	1.0000	0	1.0000	NEN DUPONT	DADA1589MB060		
40325	ATP	07/06/90	5.0000	0	5.0000	NEN DUPONT	DADA1590M3453		
40365	ATP	07/13/90	5.0000	0	5.0000	NEN DUPONT	DADA1590M3453		
40903	CTP	07/20/90	1.0000	0 trans to 645	1.0000	NEN DUPONT	DADA1589MB163		
40906	ATP	07/20/90	0.2500	0	0.2500	NEN DUPONT	DADA1589MB164		
40908	dATP	07/20/90	0.5000	0	0.5000	NEN DUPONT	DADA1590MB417		
40933	dCTP	07/25/90	1.0000	0	1.0000	NEN DUPONT	DADA1589MA289		
40990	dATP	08/03/90	0.5000	0	0.5000	NEN DUPONT	DADA1589MB417		
41045	ATP,GAMMA	08/10/90	5.0000	0	5.0000	NEN DUPONT	DADA1590M3453		
41090	CTP	08/17/90	1.0000	0	1.0000	NEN DUPONT	DADA1589MB163		
41091	dCTP	08/17/90	1.0000	0	1.0000	NEN DUPONT	DADA1589MB060		
41092	dATP	08/17/90	0.5000	0	0.5000	NEN DUPONT	DADA1589MB417		
41125	ATP,GAMMA	08/24/90	5.0000	0	5.0000	NEN DUPONT	DADA1590M3453		
* Subsubtotal *									
41163			0.25 0						
41232			0.25						
			54.2500		54.2500				
* Total Millicuries H-3									
41145	THYMIDINE	08/29/90	1.0000	trans to 642	1.0000	NEN DUPONT	DAMD1590MB164		
* Subsubtotal *									
			1.0000		1.0000				
41231 ATP P32			5.0						
* Total Millicuries P-32									
41162	dCTP	08/31/90	1.0000	0	1.0000	NEN DUPONT	DADA1589MB060		
41163	ATP	08/31/90	0.2500	0	0.2500	NEN DUPONT	DADA1589MB164		
* Subsubtotal *									
			1.2500		1.2500				
** Subtotal **									
			87.7000		87.7000				
*** Total ***									
			87.7000		87.7000				

Jack L Mark
9/13/90

04/03/90

AUTHORIZATION ISOTOPE INVENTORY

HPO TAG NUMBER	CHEMICAL FORM	DATE RECEIVED	ORIGINAL ACTIVITY IN MILLICURIES	NEW ACTIVITY IN MILLICURIES
Audit 4/10/90				
** Authorization Number: 511				
* Total Millicuries C-14				
37291		02/21/89	0.0500	0
37590		04/04/89	0.0500	0
37694		04/18/89	0.0500	0
38114		06/20/89	0.0500	0
38557		08/22/89	0.0500	0
39163	CHLORAMPHENICAL	11/15/89	0.0500	0.05
39461	CHLORAMPHENIOCA	12/26/89	0.0500	0.05
40029	CHLORAMPHENICOL	03/09/90	0.0500	0.05
* Subsubtotal *			0.4000	
* Total Millicuries P-32				
38915	ADENOSINE	10/06/89	0.2500	0
38916	dATP	10/06/89	0.5000	0
38959		10/13/89	0.2500	0
38963	dATP	10/13/89	0.5000	0
38993	dATP	10/20/89	0.5000	0
39026	dCTP	10/25/89	1.0000	0
39078	ATP	11/03/89	0.2500	0
39079	CTP	11/03/89	1.0000	0
39080	dATP(KLENOW)	11/03/89	0.5000	0
39081	dATP(KLENOW)	11/03/89	0.2500	0
39147	dCTP	11/13/89	1.0000	0
39148	dATP	11/13/89	0.5000	0
39149	ATP	11/13/89	0.2500	0
39159	dCTP	11/14/89	1.0000	0
39185	dATP	11/17/89	0.5000	0
39186	CYTIDINE	11/17/89	1.0000	0
39220	ADENOSINE	11/22/89	0.2500	0
39282	dCTP	12/01/89	1.0000	0
39286	dATP	12/01/89	0.5000	0
39339	ATP	12/06/89	5.0000	0
39360	dATP	12/08/89	0.5000	0
39361	ATP	12/08/89	0.2500	0
39363	dCTP	12/08/89	1.0000	0
39415	ADENOSINE	12/15/89	0.2500	0
39416	dATP	12/15/89	0.5000	0
39417	dATP	12/15/89	0.5000	0
39459	CTP	12/26/89	1.0000	0
39481	dATP	12/29/89	0.5000	0
39484	ATP	12/29/89	5.0000	0
39520	dCTP	01/03/90	1.0000	0
39544	dATP	01/05/90	0.5000	0
39605	dCTP	01/12/90	1.0000	0

Jesse Mark
4/10/90

04/03/90

AUTHORIZATION ISOTOPE INVENTORY

HP0 TAG NUMBER	CHEMICAL FORM	DATE RECEIVED	ORIGINAL ACTIVITY IN MILLICURIES	NEW ACTIVITY IN MILLICURIES
Audit 4/10/90				
39647	dATP	01/19/90	0.5000	0
39648	CTP	01/19/90	1.0000	0
39690	DTT	01/24/90	1.0000	0
39748		02/02/90	0.5000	0
39783	ATP	02/07/90	15.0000	0
39820	dCTP	02/09/90	1.0000	0
39859	CYTIDINE	02/16/90	1.0000	0
39861	dATP	02/16/90	0.5000	0
39912	DEOXYCYTIDINE	02/23/90	1.0000	0
39926	ATP	02/27/90	5.0000	0
39946	dATP	03/02/90	0.5000	0
39948	ATP	03/02/90	5.0000	0
40018	DEOXYCYTIDINE	03/09/90 Transferred	1.0000	to AUTH 6455 Dr. Bernton
40073	CYTIDINE	03/16/90	1.0000	0
40077	dATP	03/16/90	0.5000	0.50
40078	ATP	03/16/90	5.0000	5.0
40108	DEOXYCYTIDINE	03/21/90	1.0000	0
40252	ATP	4/6/90	5.0	5.0
40174	ATP	4/7/90	0.25	0.25
40251	DATP	4/6/90	0.50	0.50

Jesse Martin
4/10/90

05/04/89

AUTHORIZATION ISOTOPE INVENTORY

HPO TAG NUMBER	PURCHASE ORDER & CALL NUMBER		DATE RECEIVED	ORIGINAL ACTIVITY IN MILLICURIES	NEW ACTIVITY IN MILLICURIES
** Authorization Number: 511					
* Total Millicuries C-14					
36184	DADA1585A0185	HM01	08/16/88	0.1000	0
36376	DADA1585A0185	IM05	09/19/88	0.1000	0
36541	DADA1585A0185	HM01	10/19/88	0.1000	0
36615	DADA1589M0573		11/02/88	0.0500	0
36923	DADA1589M0573		12/21/88	0.0500	0
37291	DADA1589M0573		02/21/89	0.0500	0.05
37401	DADA1585A0185		03/08/89	0.0500	0.05 Auth 61
37590	DAMD1785A5005	W492	04/04/89	0.0500	transferred from WRAIR
37639	DAMD1785A5180	WC23	04/10/89	0.4000	0.0
37694	DADA1589M0573		04/18/89	0.0500	0.05
* Subsubtotal *				1.0000	
* Total Millicuries H-3					
35386	DADA1588M1772	- change #	04/04/88	0.0050	0.0
35404	DADA1588M1772		04/06/88	0.0200	0.0
* Subsubtotal *				0.0250	
* Total Millicuries I-125					
35799	DADA1588M5463		06/10/88	0.0200	0
36226	N/A		08/24/88	0.0100	0
* Subsubtotal *				0.0300	
* Total Millicuries P-32					
36431	DADA1588M2027		09/26/88	0.5000	0.0
36544	DADA1588M8361		10/19/88	0.0235	0.0
36741	DAMD1785A5005	WK25	11/22/88	0.7500	0.0
36888	DADA1589M0556		12/15/88	1.0000	0.0
37183	DADA1589M1107		02/03/89	0.2500	0.0
37185	DADA1589M1107		02/03/89	0.2500	0.0
37187	DADA1589M1390		02/03/89	0.5000	0.0
37233	DADA1589M1107		02/10/89	0.2500	0.0
37234	DADA1589M1390		02/10/89	0.5000	0.0
37372	DADA1589M1390		03/03/89	0.5000	0.0
37374	DADA1589M1107		03/03/89	0.2500	0.0
37418	DADA1589M1107		03/10/89	0.2500	0.0
37421	DADA1589M1390		03/10/89	0.5000	0.0
37512			03/23/89	0.0260	0
37596	DADA1589M0556		04/05/89	0.5000	2.5
37628	DADA1589M1107		04/07/89	0.2500	0
37630	DADA1589M1390		04/07/89	0.5000	0
37671	DADA1589M1107		04/14/89	0.2500	0
37672	DADA1589 1390		04/14/89	0.5000	0

05/04/89

AUTHORIZATION ISOTOPE INVENTORY

HIPO TAG NUMBER	PURCHASE ORDER & CALL NUMBER	DATE RECEIVED	ORIGINAL ACTIVITY IN MILLICURIES	NEW ACTIVITY IN MILLICURIES
37703	DADA1589M0556	04/19/89	0.5000	0.5
* Subsubtotal *			8.0495	
** Subtotal **			9.1045	
*** Total ***			9.1045	

p 32

37673 from WRAIR 0.0

4 May 89

D. Burton

AUTHORIZATION ISOTOPE INVENTORY

HPO TAG NUMBER	PURCHASE ORDER & CALL NUMBER		DATE RECEIVED	ORIGINAL ACTIVITY IN MILLICURIES	NEW ACTIVITY IN MILLICURIES
** Authorization Number: 511					
* Total Millicuries C-14					
34344	DADA1585A0185	3UM5	03/28/88	0.1000	0
35649	DADA1585A0036	L5UM1	05/13/88	0.1000	0
36184	DADA1585A0185	HM01	08/16/88	0.1000	~~0.025~~ 0.025
36376	DADA1585A0185	IM05	09/19/88	0.1000	0.050
* Subsubtotal *				0.4000	
* Total Millicuries H-3					
34872	DADA1588M1772		01/11/88	0.0200	0 APR 12 1988
34878	DADA1588M1772		01/11/88	0.0050	0 APR 12 1988
35042	DADA1588M1772		02/08/88	0.0050	0
35060	DADA1588M1772		02/10/88	0.0200	0
35203	DADA1588M1772		03/07/88	0.0200	0
35386	DADA1585M1772		04/04/88	0.0050	0.005 } Total
35404	DADA1588M1772		04/06/88	0.0200	0.05 } left
* Subsubtotal *				0.0950	
* Total Millicuries I-125					
34765	DADA1588M2514		12/16/87	0.0200	0 APR 12 1988
34766	DADA1588M2508		12/16/87	0.0040	0 APR 12 1988
34772	DADA1588M2103		12/18/87	0.0040	0 APR 12 1988
35040	DADA1585A0038		02/05/88	0.0380	0 APR 12 1988
35799	DADA1588M5463		06/10/88	0.0200	0.02
35226	N/A		08/24/88	0.0100	0.01
* Subsubtotal *				0.0960	
* Total Millicuries NONRAD					
34916			01/15/88	0.0000	✓ APR 12 1988
35321			03/24/88	0.0000	✓ APR 12 1988
35818	DADA1585A0185	9UG3	06/15/88	0.0000	✓
* Subsubtotal *				0.0000	
* Total Millicuries P-32					
34774	DADA1588M0621		12/18/87	0.2500	0 APR 12 1988
34876	DADA1588M0621		01/11/88	0.2500	0 APR 12 1988
34914	DADA1588M0588		01/15/88	0.2500	0 APR 12 1988
34933	DADA1588M2027		01/19/88	0.5000	0 APR 12 1988
35034	DADA1588M0621		02/05/88	0.2500	0 APR 12 1988
35043	DADA1588M2027		02/08/88	0.5000	0 APR 12 1988
35077	DADA1588M0588		02/12/88	0.2500	0 APR 12 1988
35120	DADA1588M0621		02/19/88	0.2500	0 APR 12 1988
35158	DADA1588M0588		02/29/88	0.2500	0 APR 12 1988

AUTHORIZATION ISOTOPE INVENTORY

RPO TAG NUMBER	PURCHASE ORDER & CALL NUMBER		DATE RECEIVED	ORIGINAL ACTIVITY IN MILLICURIES	NEW ACTIVITY IN MILLICURIES
33159	DADA1588M2027		02/29/88	0.5000	0 APR 12 1988
33189	DADA1588M0621		03/04/88	0.2500	0 APR 12 1988
33235	DADA1588M0588		03/11/88	0.2500	0 APR 12 1988 ✓
33277	DADA1588M0621		03/18/88	0.2500	0 APR 12 1988 ✓
33301	DADA1588M2027		03/21/88	0.5000	0 APR 12 1988
33334	DADA1588M0058	8	03/25/88	0.2500	0 APR 12 1988
33445	DADA1588M2027		04/11/88	0.5000	0
33462	DADA1588M2027	REPL	04/13/88	0.5000	0
33479	DAMD1788M0588		04/15/88	0.2500	0
33575	DADA1588M2027		05/02/88	0.5000	0
33610	DADA1588M0621		05/06/88	0.2500	0 615
33650	DADA1588M0588		05/13/88	0.2500	0
33696	DADA1588M0621		05/20/88	0.2500	0 615
33706	DADA1588M2027		05/23/88	0.5000	0
33736	DADA1588M0588		05/27/88	0.2500	0
33756	DADA1588M0621		06/03/88	0.2500	0 615
33796	DADA1588M0588		06/10/88	0.2500	0
33810	DADA1588M2027		06/13/88	0.5000	0
33837	DADA1588M0621		06/17/88	0.2500	0 615
33871	DADA1588M0588		06/24/88	0.2500	0
33909	DADA1588M0588		07/01/88	0.3500	0
33929	DADA1588M2027		07/06/88	0.5000	0
33957	DADA1588M0621		07/08/88	0.2500	0 615
34047	DADA1588M0621		07/22/88	0.2500	0 615
34056	DADA1588M2027		07/25/88	0.5000	0
34137	DADA1588M0621		08/05/88	0.2500	0 615
34150	DADA1588M9681		08/08/88	0.5000	0
34168	DADA1588M0588		08/12/88	0.2500	0
34177	DAMD1788M2027		08/15/88	0.5000	0
34204	DADA1588M9681		08/19/88	0.5000	0
34206	DADA1588M0621		08/19/88	0.2500	0
34239	DADA1588M0588		08/26/88	0.2500	0
34270	DADA1588M0621		09/02/88	0.2500	0
34273	DADA1588M9681		09/02/88	0.5000	0
34298	DADA1588M2027		09/07/88	0.5000	0
34329	DADA1588M0585		09/09/88	0.2500	0
34414	DAMD1788M0621		09/23/88	0.2500	~~0.250~~ ~~615~~ 0
34418	DADA1588M9681		09/23/88	0.5000	~~5~~ 615 0
34431	DADA1588M2027		09/26/88	0.5000	0.500
34459	DADA1588M9681		10/03/88	0.5000	~~0.500~~ 0 615
* Subsubtotal *				17.1000	
* Total Millicuries S-35					
34789	DADA1588M2108		12/22/87	1.0000	0
34845	DADA1588M2108		01/06/88	1.0000	0
34913	DADA1588M0534		01/15/88	5.0000	0 APR 12 1988
34915	DADA15[illegible]5A0185	1UQ1	01/15/88	5.0000	0 APR 12 1988

AUTHORIZATION ISOTOPE INVENTORY

M0534 AUTH 615

MPO TAG NUMBER	PURCHASE ORDER & CALL NUMBER	DATE RECEIVED	ORIGINAL ACTIVITY IN MILLICURIES	NEW ACTIVITY IN MILLICURIES
3:0017	DADA1588M2108	02/03/88	1.0000	0 APR 12 1988
3:1136	DADA1588M0534	02/23/88	5.0000	0 APR 12 1988
3:1183	DADA1588M2108	03/03/88	0.0160	0 APR 12 1988
3:1275	DADA1588M0534	03/18/88	5.0000	0
3:1363	DADA1588M2108	03/30/88	1.0000	0
3:1399	DADA1585M2108	04/06/88	1.0000	1.0 0
3:1430	DADA1588M0534	04/08/88	1.0000	1.0 ~~615~~ 0
3:1562	DADA1588M0534	04/29/88	5.0000	~~5.0~~ ~~615~~ 0
3:1592	DADA1588M2108	05/04/88	1.0000	0
3:1700	DADA1588M0534	05/20/88	5.0000	~~5.0~~ 0 615
3:1800	DADA1588M0534	06/10/88	1.0000	0 ~~615~~
3:1924	DADA1588M0534	07/06/88	1.0000	0 615
3:2041	DADA1588M0534	07/22/88	1.0000	0 ~~5.0~~ ~~615~~
3:2165	DADA1588M0534	08/12/88	5.0000	5.0 615
3:2299	DADA1588M0534	09/07/88	5.0000	5.0 615
3:2417	DADA1588M0534	09/23/88	5.0000	5.0mCi 615
* Subsubtotal *			55.0160	
** Subtotal **			72.7070	
*** Total ***			72.7070	

Received 11511 10-25-88

AUTHORIZATION ISOTOPE INVENTORY

HFO TAG NUMBER	PURCHASE ORDER & CALL NUMBER		DATE RECEIVED	ORIGINAL ACTIVITY	NEW ACTIVITY
** Authorization Number: 511					
* Total Milicuries C-14					
35344	DADA1585A0185	3UM5	03/28/88	0.1000	0.1
* Subsubtotal *				0.1000	
* Total Milicuries H-3					
34872	DADA1588M1772		01/11/88	0.0200	~~0.02~~ 0
34878	DADA1588M1772		01/11/88	0.0050	~~0.005~~ 0
35042	DADA1588M1772		02/08/88	0.0050	0.005
35060	DADA1588M1772		02/10/88	0.0200	~~0.02~~ 0.01
35203	DADA1588M1772		03/07/88	0.0200	0.02
* Subsubtotal *				0.0700	
* Total Milicuries I-125					
34765	DADA1588M2514		12/16/87	0.0200	0
34766	DADA1588M2508		12/16/87	0.0040	0
34772	DADA1588M2103		12/18/87	0.0040	0
35040	DADA1585A0038		02/05/88	0.0380	0
* Subsubtotal *				0.0660	
* Total Milicuries NONRAD					
34916			01/15/88	0.0000	/
35321			03/24/88	0.0000	/
* Subsubtotal *				0.0000	
* Total Milicuries P-32					
34774	DADA1588M0621		12/18/87	0.2500	0
34876	DADA1588M0621		01/11/88	0.2500	0
34914	DADA1588M0588		01/15/88	0.2500	0
34933	DADA1588M2027		01/19/88	0.5000	0
35034	DADA1588M0621		02/05/88	0.2500	0
35043	DADA1588M2027		02/08/88	0.5000	0
35077	DADA1588M0588		02/12/88	0.2500	0
35120	DADA1588M0621		02/19/88	0.2500	0
35158	DADA1588M0588		02/29/88	0.2500	0
35159	DADA1588M2027		02/29/88	0.5000	0
35189	DADA1588M0621		03/04/88	0.2500	0
35235	DADA1588M0588		03/11/88	0.2500	0
35277	DADA1588M0621		03/18/88	0.2500	0
35301	DADA1588M2027		03/21/88	0.5000	0
35334	DADA1588M0058	8	03/25/88	0.2500	0
* Subsubtotal *				4.7500	

AUTHORIZATION ISOTOPE INVENTORY

HBO TAG NUMBER	PURCHASE ORDER & CALL NUMBER		DATE RECEIVED	ORIGINAL ACTIVITY	NEW ACTIVITY
* Total Milicuries S-35					
34789	DADA1588M2108		12/22/87	1.0000	0
34845	DADA1588M2108		01/06/88	1.0000	0
34913	DADA1588M0534		01/15/88	5.0000	0
34915	DADA1585A0185	1UQ1	01/15/88	5.0000	0
35017	DADA1588M2108		02/03/88	1.0000	0
35136	DADA1588M0534		02/23/88	5.0000	0
35183	DADA1588M2108		03/03/88	0.0160	0
35275	DADA1588M0534		03/18/88	5.0000	bid 5.0 Methionine
35363	DADA1588M2108		03/30/88	1.0000	1.0 mCi dATP
* Subsubtotal *					
				24.0160	
** Subtotal **					
				29.0020	
*** Total ***					
				29.0020	

10/04/89

AUTHORIZATION ISOTOPE INVENTORY

HPO TAG NUMBER	CHEMICAL FORM	DATE RECEIVED	ORIGINAL ACTIVITY IN MILLICURIES	NEW ACTIVITY IN MILLICURIES
******* Authorization Number: 511				
* Total Millicuries C-14				
37291		02/21/89	0.0500	0.03
37590		04/04/89	0.0500	0.05
37639		04/10/89	0.4000	Non Rad
37694		04/18/89	0.0500	0.03
38114		06/20/89	0.0500	0.05
38557		08/22/89	0.0500	0.05
* Subsubtotal *		8/29/89	0.6500	0.05
* Total Millicuries I-125				
37951		05/26/89	0.0200	0
* Subsubtotal *			0.0200	
* Total Millicuries P-32				
37596		04/05/89	0.5000	0
37628		04/07/89	0.2500	0
37630		04/07/89	0.5000	0
37671		04/14/89	0.2500	0
37672		04/14/89	0.5000	0
37703		04/19/89	0.5000	0
37830		05/05/89	0.5000	0
37831		05/05/89	0.2500	0
37859		05/12/89	0.2500	0
37860		05/12/89	0.5000	0
37998		06/02/89	0.2500	0
38000		06/02/89	0.5000	0
38050		06/09/89	0.2500	0
38051		06/09/89	0.5000	0
38245		07/07/89	0.2500	0
38248		07/07/89	0.5000	0
38271		07/11/89	0.2500	0
38298		07/14/89	0.2500	0
38305		07/14/89	0.5000	0
38445		08/04/89	0.5000	0
38446		08/04/89	0.2500	0
38496		08/11/89	0.2500	0
38498		08/11/89	0.5000	0
38506		08/14/89	5.0000	0
38669	~~CTP~~ ATP	09/06/89	1.0000	0
38696	ADENOSINE	09/08/89	0.2500	0
38697	dATP	09/08/89	0.5000	0
38760	ADENOSINE	09/15/89	0.2500	0
38761	dATP	09/15/89	0.5000	0
38762	ATP	09/15/89	5.0000	0
~~38776~~			~~25~~	~~5~~
38959			0.25	0.25
38963			0.5	0.5

J.E. Carew, PhD

CONTROLLED SUBSTANCES STOCK RECORD

(AR 40-2)

STOCK NUMBER

DESCRIPTION 511 I-125

UNIT AS RECEIVED

CONVERSION FACTOR

ACCOUNTABLE UNIT

DATE	DEBIT (Receipts)	DEBIT (VO.) OR CREDIT (RX) NO	CREDIT (Expenditures)	BALANCE ON HAND	DATE	DEBIT (Receipts)	DEBIT (VO.) OR CREDIT (RX) NO	CREDIT (Expenditures)	BALANCE ON HAND
3 Nov 86	0.006 mCi	DADA 1557 IN 10041	32654						
28 Jan 87	0.006	DADA 1557 M 2122	33032						
4 Mar 87	0.006 mCi	DADA 1557 M 4366	33219						
27 Mar 87	0.02 mCi	"	33341						
12 May 87	0.004	DADA 1557 IN 11744	33558						
"	0.004	DADA 1557 M 4366	33559						
16 Dec 87	0.02 mCi	DADA 1558 M 2514	34765						
16 Dec 87	0.004 mCi	DADA 1558 M 2508	34766						
18 Dec 87	0.004 mCi	DADA 1588 M 2103	34772						

CONTROLLED SUBSTANCES STOCK RECORD

For use of this form, see AR 40-2; the proponent agency is Office of The Surgeon General.

STOCK NUMBER

DESCRIPTION 125-I
Clinical Investigation Suc. NMTF
PB-01739-02/511

UNIT AS RECEIVED

CONVERSION FACTOR

ACCOUNTABLE UNIT

DATE	DEBIT (Receipts)	DEBIT (VO.) OR CREDIT (RX) NO.	CREDIT (Expenditures)	BALANCE ON HAND	DATE	DEBIT (Receipts) (mCi)	DEBIT (VO.) OR CREDIT (RX) NO.	CREDIT (Expenditures)	BALANCE ON HAND
16-Oct-79	.02mCi	Memo 12352	21487		18OCT85	2.0	M0799	30911	9940C
4-Dec-79	5mCi	DAMD1779 M0594	21555		27 Nov 85	2.0	DADA 1585 MO 799	31067	31067
17 Sept 82	DADA1582 F5269	.024mCi	26232		29 JAN86	0.001mCi	DADA1586 M3451	31281	
1 Oct '82	~~DADA~~ .018mCi	DADA 1582 F5262	26286		27 Feb 86	0.01	DADA 1586 M3588	31424	
18 Nov 82	5mCi	DADA 1583 F3404	26475		06 MAR 86	2.0	DADA-15-85 A0185	31463	3UH-2
5 Jan 83	.03mCi	15651	26650		14 MAR 86	0.001	DADA 15 16 M15704	31487	
10 Jun 83	.01mCi	DADA1583 A0008 Call 116.22	27257		14 Apr 86	0.006	DADA1586 M3588	31649	4 3H 28
13 Apr 84	0.01mCi	DADA1584 MA983	28458		~~7 May 86~~	0.0006mCi	DADA1786 M7606	31795	4 3H 22
25 JUN 84	0.015mCi	DADA1584 MD929	28771		13 JUN 86	0.007mCi	DADA1586M86641 24706	31982	
13 July 84	0.01mCi	DADA1583 A0008 #7021	28857		30 June 86	0.005mCi	DADA1585 A0185	32064	4uH2
24 Jul 84	0.02mCi	DADA 1584 M6700	28909		8 Jul 86	0.020	DADA1586 M0310	32095	
16 Oct 84	.01mCi	DADA 1586 M0167	29284		~~22 Jul 86~~	0.004	DADA 1586 MA017	32186	I 31572
26 OCT 84	0.02mCi	DADA 1585 MC515	29329		5 Aug 86	0.02	DADA 1586 M0310	32243	
~~7 JAN 85~~	0.02mCi	DADA 1585M 2479	~~29629~~ AR		6 Aug 86	0.002	DADA 1586 M0310	32265	
1 Feb 85	0.02mCi	DADA 1585M 3927	29726		3 Sep 86	0.1mCi	DADA 1586 M0310	32392	
1 Feb 85	0.04mCi	DADA 1585M 3727	29727		19 Sep 86	0.006	DADA 1586 M0869	32467	0001C
16 OCT 85	0.020	M0791	30910	60720	20 OCT 86	0.02	DADA 1586 A0310	32634	

DA FORM 1 JUNE 72 3862

REPLACES DA FORM 8-235, 1 AUG 51, WHICH WILL BE USED.

CONTROLLED SUBSTANCES STOCK RECORD

For use of this form, see AR 40-2; the proponent agency is Office of The Surgeon General.

STOCK NUMBER

DESCRIPTION C-14 Clinical Investigation, NMTF
Ø8-Ø1738-Ø2/511

UNIT AS RECEIVED

CONVERSION FACTOR

ACCOUNTABLE UNIT

DATE	DEBIT (Receipts)	DEBIT (VO.) OR CREDIT (RX) NO	H.F. # ~~CREDIT (Expenditures)~~	P.R. # ~~BALANCE ON HAND~~	DATE	DEBIT (Receipts)	DEBIT (VO.) OR CREDIT (RX) NO.	CREDIT (Expenditures)	BALANCE ON HAND
17 Jul 85 (Delivered 12 Nov 87)	0.05mCi	DADA1585 MA248	30495	7265					
23 Oct 87	0.05mCi	DADA1585 A0185	34473	10UM2					
2 Dec 87	0.010mCi	"	34683	12UM3					

DA FORM 3962

REPLACES DA FORM 8-235, 1 AUG 61, WHICH IS OBSOLETE.

CONTROLLED SUBSTANCES STOCK RECORD

(AR 40-2)

STOCK NUMBER	DESCRIPTION	
UNIT AS RECEIVED	CONVERSION FACTOR	ACCOUNTABLE UNIT

DATE	DEBIT (*Receipts*)	DEBIT (*VO.*) OR CREDIT (*RX*) NO	CREDIT (*Expenditures*)	BALANCE ON HAND	DATE	DEBIT (*Receipts*)	DEBIT (*VO.*) OR CREDIT (*RX*) NO	CREDIT (*Expenditures*)	BALANCE ON HAND

☆ U.S. Government Printing Office

CONTROLLED SUBSTANCES STOCK RECORD

(AR 40-2)

STOCK NUMBER

DESCRIPTION H3 /511 Endo-Metab

UNIT AS RECEIVED

CONVERSION FACTOR 08-01738-02

ACCOUNTABLE UNIT

DATE	DEBIT (Receipts)	DEBIT (VO.) OR CREDIT (RX) NO	CREDIT (Expenditures)	BALANCE ON HAND	DATE	DEBIT (Receipts)	DEBIT (VO.) OR CREDIT (RX) NO	CREDIT (Expenditures)	BALANCE ON HAND
9 Dec 87	0.005	PADA 1588 M1772	34723						

1

CONTROLLED SUBSTANCES STOCK RECORD

For use of this form, see AR 40-2; the proponent agency is Office of The Surgeon General.

STOCK NUMBER	DESCRIPTION
	H-3 Clinical Investigation, WMTF 08-01738-02/511
UNIT AS RECEIVED	**CONVERSION FACTOR**
	ACCOUNTABLE UNIT

DATE	DEBIT (*Receipts*)	DEBIT (*VO.*) OR CREDIT (*RX*) NO.	CREDIT (*Expenditures*)	BALANCE ON HAND
28 Mar 80	0.016 mCi	DADA1580 F5316	22113	
14-Aug-80	1 mCi	DADA1580 FA300	22807	
2 feb-82	.15 mCi	DADA 1582 F2895	25208	
9 feb 82	.03 mCi	DADA1582 F2895	25253	
23 MAR '82	.25 mCi	DADA 1580 A0010 CL3421	25435	
23 MAR '82	.25 mCi	DADA 1580 A0010 C13421	25436	
30 MAR '82	.025 mCi	DADA1582 M6795	25469	
6 APR '82	.0075 mCi	DADA1582 6702	25500	
15 Dec '82	1 mCi	DADA1583 A000812421	26588	
28 Nov 83	.001 mCi	DADA 1584 M4614	27872	
27 Feb 84	1.0 mCi	DADA1583 A0008#2422	28254	
21 May 84	0.015 mCi	DADA1584 M6958	28613	
23 May 84	0.0275 mCi	DADA 1584 M6958	28616	
5 Dec 84	0.015 mCi	DADA 1585 M2007	29497	
10 Dec 84	0.01075 mCi	DADA1585 M2007	29522	
~~2~~ 2 Jan 85	.005 mCi	DADA 1585 M 0863	29623	
29 APR 85	.005 mCi	DADA 1585 M6624	30126	35149

DATE	DEBIT (*Receipts*)	DEBIT (*VO.*) OR CREDIT (*RX*) NO.	CREDIT (*Expenditures*)	BALANCE ON HAND
3 May 85	DADA1585 M6624	0.01 mCi	30155	35149
26 Jun 85	DA~~DA~~ 1585 M 9893	0.01 mCi	30394	61223
10 Jul 85	DADA1585 M 9893	0.02 mCi	30426	61223
31 Jul 85	DADA1585 MB381	0.01 mCi	30564	78532
~~16 Oct 85~~	~~M0791~~	~~0.020~~	~~30960~~	~~60720~~
25 Nov 85		7.5 mCi	31056	
4 Feb 86	DADA1586 M4443	0.005	31306	164166?
06 MAR 86	DADA 15-85 A 0185	0.025	31465	2UHI
31 Mar 86	DADA 1586 M5659	0.02 ~~[illegible]~~ mCi	31564	195417
22 May 86	DADA1586 M8294	0.0072 mCi	31870	5082
9 JUL 86	DADA1585 A0185	0.020 mCi	32106	04653
13 Aug 86	DADA1586 MA396	0.02 mCi	32293	
10 Dec 86	——	0.005	32953	
16 Mar 87	DADA 1585 A0185	0.025 mCi	33279	3UHI
19 Nov 87	DADA1588 M1772	0.02 mCi	34612	
20 Nov 87	DADA1585 M1772	0.005 mCi	34623	
7 Dec 87	DADA1588 M1772	0.02 mCi	34714	

DA FORM 1 JUNE 72 3862 REPLACES DA FORM 8-235, 1 AUG 51, WHICH WILL BE USED.

CONTROLLED SUBSTANCES STOCK RECORD

(AR 40-2)

STOCK NUMBER

DESCRIPTION P32

08-01738-02/511

UNIT AS RECEIVED

CONVERSION FACTOR

ACCOUNTABLE UNIT

DATE	DEBIT (Receipts)	DEBIT (VO.) OR CREDIT (RX) NO	CREDIT (Expenditures)	BALANCE ON HAND	DATE	DEBIT (Receipts)	DEBIT (VO.) OR CREDIT (RX) NO	CREDIT (Expenditures)	BALANCE ON HAND
20 Nov 87	0.250mCi	DADA 1588 M0588	34628						
2 Dec 87	0.5 mCi	DADA 1588 M2027	34682						
4 Dec 87	0.250mCi	DADA 1588 M0621	34697						
18 Dec 87	0.250mCi	DADA 1588 M0621	34774						

CONTROLLED SUBSTANCES STOCK RECORD

For use of this form, see AR 40-2; the proponent agency is Office of The Surgeon General.

STOCK NUMBER	DESCRIPTION	
UNIT AS RECEIVED	CONVERSION FACTOR	ACCOUNTABLE UNIT

DATE	DEBIT (*Receipts*)	DEBIT (*VO.*) OR CREDIT (*RX*) NO	CREDIT (*Expenditures*)	BALANCE ON HAND	DATE	DEBIT (*Receipts*)	DEBIT (*VO.*) OR CREDIT (*RX*) NO.	CREDIT (*Expenditures*)	BALANCE ON HAND

DA FORM JUNE 72 3862

REPLACES DA FORM 8-235, 1 AUG 51, WHICH WILL BE USED.

CONTROLLED SUBSTANCES STOCK RECORD

(AR 40-2)

STOCK NUMBER

DESCRIPTION: S^{35} / 511 Endo-Metab.

UNIT AS RECEIVED

CONVERSION FACTOR: 08-01738-02

ACCOUNTABLE UNIT

DATE	DEBIT (Receipts)	DEBIT (VO.) OR CREDIT (RX) NO	CREDIT (Expenditures)	BALANCE ON HAND	DATE	DEBIT (Receipts)	DEBIT (VO.) OR CREDIT (RX) NO	CREDIT (Expenditures)	BALANCE ON HAND
9 Dec 87	1.0mCi	DAPA 1588 M2108	34729						
9 Dec 87	1.0mCi	11	34734						
22 Dec 87	1.0mCi	11	34789						

CONTROLLED SUBSTANCES STOCK RECORD

For use of this form, see AR 40-2; the proponent agency is Office of The Surgeon General.

STOCK NUMBER	DESCRIPTION	
UNIT AS RECEIVED	CONVERSION FACTOR	ACCOUNTABLE UNIT

DATE	DEBIT (*Receipts*)	DEBIT (*VO.*) OR CREDIT (*RX*) NO.	CREDIT (*Expenditures*)	BALANCE ON HAND	DATE	DEBIT (*Receipts*)	DEBIT (*VO.*) OR CREDIT (*RX*) NO.	CREDIT (*Expenditures*)	BALANCE ON HAND

DA FORM 1 JUNE 72 3862

REPLACES DA FORM 8-235, 1 AUG 51, WHICH WILL BE USED.

CONTROLLED SUBSTANCES STOCK RECORD

For use of this form, see AR 40-2; the proponent agency is Office of The Surgeon General.

STOCK NUMBER	DESCRIPTION 35-5 Clinical Investigation IND/IF 08-01738-02/511	
UNIT AS RECEIVED	CONVERSION FACTOR	ACCOUNTABLE UNIT

DATE	DEBIT (Receipts)	DEBIT (VO.) OR CREDIT (RX) NO	H.P.F. ~~CREDIT~~ (Expenditures)	P.R.F. ~~BALANCE~~ ON HAND	DATE	DEBIT (Receipts)	DEBIT (VO.) OR CREDIT (RX) NO	CREDIT (Expenditures)	BALANCE ON HAND
17 Jul 85	0.5mCi	PADA1585 MA248	30493	72659					

DA FORM JUNE 72 2962

REPLACES DA FORM 8-235, 1 AUG 51, WHICH MAY BE USED

CONTROLLED SUBSTANCES STOCK RECORD

(AR 40-2)

STOCK NUMBER	DESCRIPTION	
UNIT AS RECEIVED	CONVERSION FACTOR	ACCOUNTABLE UNIT

DATE	DEBIT (*Receipts*)	DEBIT (*VO.*) OR CREDIT (*RX*) NO	CREDIT (*Expenditures*)	BALANCE ON HAND	DATE	DEBIT (*Receipts*)	DEBIT (*VO.*) OR CREDIT (*RX*) NO	CREDIT (*Expenditures*)	BALANCE ON HAND

☆ U.S. Government Printing Office: 1980- 341 810/2145