

Michigan Technological University

Lakeshore Center
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Houghton, Michigan 49931-1295
906-487-2902 \$ Fax 906-487-2245

Materials Licensing Branch
United States Nuclear Regulatory Commission
2443 Warrenville Road
Lisle, Illinois 60532

May 15, 2012

To Whom It May Concern:

Please accept the enclosed application of Dr. Xiaoqing Tang, Assistant Professor of Biological Sciences at Michigan Technological University, for authorized user status (DRU). Our license number is 21-00278-02. In addition to the request for authorization to use P-32 in her application, she would also like authorization for C-14 and H-3. We are not requesting any changes in our licensed isotopes or activity limits. We will reallocate existing amounts to accommodate Dr. Tang's request.

Sincerely,



Dr. Allen Niemi, Director
Occupational Safety and Health

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Application for DRU status at Michigan Technological University

Name: Xiaoqing Tang (Dept. of Biological Sciences)

Date: 09/25/2011

I. Educational Training and Professional Experience

- 1990 B.Sc. in Anhui Agricultural University, China.
- 1993 M.Sc. in Anhui Agricultural University, China.
- 1996-2002 Ph.D. Dept. of Biological Regulation, Weizmann Institute of Science, Israel
- 2003-2005 Post-doctor, Program in Molecular Medicine, University of Massachusetts Medical School, MA.
- 2006-2007 Research associate, Department of Molecular and Cellular Biochemistry, College of Medicine, University of Kentucky, KY.
- 2008-2010 Research assistant professor, Department of Molecular and Cellular Biochemistry, College of Medicine, University of Kentucky, KY.
- 2011-present Assistant professor, Department of Biological Sciences, Michigan Technological University, MI

II. Radiation safety Training

University of Kentucky, KY (2005-2010)

University of Massachusetts Medical School, MA (2003-2005)

III. Radiation working experience

University of Kentucky, KY (2005-2010)

Phosphorus-32: 5 ul of ^{32}P -dATP (6000 Ci/mmol, 10 mCi/ml) was used to label small RNA in each experiment. The labeled small RNA was used to hybridize microRNA array membrane. In addition, 1 ul of ^{32}P -dATP was used to radiolabeled DNA probe for microRNA Northern blots. Lab inventory was about 10 mCi.

University of Massachusetts Medical School, MA (2003-2005)

Tritium (^3H): 1 μCi of ^3H labeled 2-deoxy-D- ^3H -glucose was added into cultured cells for Glucose uptake assay in 3T3-L1 adipocyte cells. ^3H -glucose uptake was detected in 1 ml of scintillant using Beckman scintillation counter. Lab inventory was about 1 mCi.

IV. Radionucleotide Possession Limit

P-32 10 mCi

V. Statement of Purpose for the DRU Designation

I am requesting for DRU status in order to carry out microRNA (miRNA) research experiments in my laboratory that involve radioactive work. This includes miRNA northern blots and miRNA array. Use of radioactive material is crucial for the research in our laboratory. I have 8 years working experience of using radioactive material in my previous universities. I will be responsible for the radioactive facility and processing in my laboratory on the approval of my application. I will maintain inventory for the radioactive material. The graduate students in the lab will be hand-trained before they start to work on the radioactive work.

Sincerely yours,

Xiaoqing Tang

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Xiaoqing Tang
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