

# PUBLIC SUBMISSION

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Linear No-Threshold Model and Standards for Protection Against Radiation

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Linear No-Threshold Model and Standards for Protection Against Radiation; Notice of Docketing and Request for Comment

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## General Comment

The following is just one of the thousands of studies proving that low dose radiation is harmful to the genome.

Induction of Sister Chromatid Exchanges by Extremely Low Doses of -Particles<sup>1</sup>

Hatsumi Nagasawa, and John B. Little<sup>2</sup>

"Department of Cancer Biology, Harvard School of Public Health, Boston, Massachusetts 02115  
Abstract

"The induction of sister chromatid exchanges (SCE) was examined in Chinese hamster ovary cells irradiated in the G1 phase of the cell cycle with -particles from a plutonium-238 source. A significant increase in the frequency of SCE occurred with doses as low as 0.31 mGy (31 millirads). Although 30% of the cells showed an increased frequency of SCE at this dose, less than 1% of cell nuclei were actually traversed by an -particle. A dose of approximately 2.0 Gy was necessary to produce a similar increase in SCE by X-rays. These results indicate that genetic damage may be induced by low doses of -radiation in cell nuclei not actually traversed by an -particle. This phenomenon may have important implications in the estimation of risks of such exposures."

<http://cancerres.aacrjournals.org/content/52/22/6394.short#fn-1>

No. In fact, there is proof positive in the scientific literature that low dose radiation is very harmful to mammals.

Keep the allowable dose limits as they are, please.