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## AN OBSERVATION ON THE CLEARANCE OF THORIUM OXIDE FROM THE LUNG OF A MINER

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**Abstract** An observation on the clearance of thorium oxide from the lung of a miner of Bayan Obo Iron and Rare-Earth Mine before and after his leaving the dust post was carried out by us during the period from Sep. 1983 to Aug. 1990. The thorium lung burdens were estimated by the exhaled thoron activity of the miner. The exhaled thoron activity was measured by using an electrostatic collection system for thoron decay products. After his leaving the dust post on Oct. 15, 1984, fifteen data points were obtained. The last measurement was carried out on Sep. 30 1990. The fifteen data points were analyzed by Dr. Edward G. Damon on his computer program (RS1). The results indicate that 44% of the initial lung burden was cleared by a half-time of 112 days and 56% was clearing with a half-time of 2553372 days (about 7000 years). The long half-time of the second component may mean that no significantly measurable clearance is occurring at the longer time. The model used forces a 2-component Negative Exponential Fit.

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## BIODISTRIBUTION OF LAK CELLS IN MICE BEARING TUMOR

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**Abstract** For the improvement of IL-2 and LAK (lymphokine activated killer cells) therapy in tumor, it is desired that an enough amount of adoptively transferred LAK cells migrate to and localize in tumor tissue. We observed the changes of the biodistribution of  $^{51}\text{Cr}$  labeled AK cells when tumor-bearing mice were exposed to different doses of local r-ray irradiation on tumor. Our experiment showed that: (1)  $^{51}\text{Cr}$  labeled LAK cells distributed mainly into liver and spleen 24h after i.v. administration and only low level radioactivity of  $^{51}\text{Cr}$  labeled LAK cells were detected from tumor lungs and blood in control group. It may be one of the reasons for the inability of AK cells to eradicate tumor metastases completely *in vivo*; (2) The mean percentage of total injected activity localizing per gram tumor was  $1.04 \pm 0.79$  in the 10 Gy irradiated group and  $0.68 \pm 0.22$  in the control group, the mean of the tumor to spleen distribution ratio of 10 Gy irradiated group was 3.7 times that for control group, indicating that 10 Gy  $\gamma$ -ray irradiation may enhances the infiltration of LAK cells into tumor tissue.