

THE UNIVERSITY OF PITTSBURGH
PITTSBURGH 13, PENNSYLVANIA

RADIATION LABORATORY

H. C. Dudley
Comrander, MSC, USN
Naval Medical Research Institute
National Naval Medical Center
Bethesda 14, Maryland

REPOSITORY Records Holding Area Bldg. 494
COLLECTION Protocols - Clinical
BOX No. 4
FOLDER HUMAN PROTOCOLS 1950 - 1963

In re: Serial 1466
NH/R/ M3-4
HCD:mgh
6 March 1951

Dear Sir:

I have your letter of 1 March regarding your request for radio-gallium (Ga^{72}).

There is no yield data in the literature on this particular reaction, however, I believe a rough calculation can be made from Dr. John W. Irvine, Jr's work on a bombardment of copper to make zinc. It would be necessary that we bombard the zinc, perhaps in the form of a sample of brass having a high zinc content (60%). We are in no position to make separation of the gallium from the brass although Dr. Irvine indicates that it is a very simple procedure, i.e., dissolve the brass shavings, which we would send, in Nitric acid and then in concentrated Hydrochloric acid and take out the gallium in Di Chloro Di Ethyl ether. This would give a very high, specific, active gallium.

We would be glad to bombard a sample target and send it to you for preliminary processing and yield data. We could bombard the targets, say for 2 or 3 hours, with 200 microamperes of 16 Mev. deuterons. There would be some yield of gallium⁶⁷ from the $d,2n$ reaction.

These targets could be shipped to you via air express and be at the Washington airport within 3 or 4 hours after the bombardments end.

We are looking forward to hearing further from you regarding the bombardments.

Very truly yours,



A. J. Allen, Director
Radiation Laboratory

AJA:n

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Beta $\frac{\text{mc dose}}{\text{kg. body wt.}}$ X $\frac{0.5}{.175}$ X 4 x 22 er per gram.

Example:

$$\text{(T.D.) } \frac{117}{56.8} \times \frac{0.5}{.175} \times 58 = 340$$

$$\frac{117}{56.8} \times \frac{0.5}{.175} \times 4 \times 22 = 515$$

Estimated minimum total to lesion = 855 r/gram.

- (d) Remarks: Because of the minimal toxic radiation effects to the two patients treated, it is recommended that to deliver a possible cancericidal dose, a minimum of three (3) doses of gallium (100 - 120 mc each) be given, each week. Whole blood may be necessary due to over all effects on the hematopoietic tissues.

H. C. Dudley
Cdr. MSC USN

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