

UNIVERSITY OF UTAH
COLLEGE OF MEDICINE
SALT LAKE CITY

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RADIOBIOLOGY LABORATORY

March 12, 1956

In our case: Th Cl₄ (which isotope of any daughter)
Ra/Th ratio 49 days (soft tissue vs that of bone as whole)
hardly any deposition in bone? see Harsanyi with Th Cl₄
for proportion in skeleton (any buffers?) in Harsanyi's work

Van Dilla -
Beagles I.V.
cannot be in equilibrium - not simultaneous
body as a whole 0.58
hemispheres (average) 0.95 / Table I
some region > 1.0
no soft tissue tested, but inference is
that ratio lower than (0.58) by how
much depends on R_a in soft tissue
or bone with internal equilibrium -
value of body R_a/Th ratio
checks after 49 days.

L.D. Marinelli
Radiological Physics Division
Argonne National Laboratory
Lemont, Illinois

Dear Mr. Marinelli:

I would also like to know the publication date - it seems to me ages ago that it was submitted and accepted.

Your Th²²⁷ accident case sounds interesting; I am looking forward to learning more about it. The Ra/Th ratio in our beagles was much larger than 0.15, as you can see from the enclosed copy of the submitted paper.

Sincerely,

M. A. Van Dilla

M.A. Van Dilla

MAVD:bjb
Encl.

Find Ra (soft tissue vs skeleton as a function of time) Rat, man

Ac chloride in equilibrium dissolved in 0.9 NaCl
Anthony - checks whole body ratios at 59 days (rats)
for Ra/Th on assumption that Th in body
remains constant (that is, is replenished by Ac²²⁷)

Ac-Th-Ra constant in bone (as Van Dilla) on the
average - However it may mean that Th may be
coming from soft tissue - but critical letter is depleted
can assume be given only when skeleton is only
source of Th, otherwise can true ratio be found.
Anthony did this & shows equilibrium
in total animal to be reached in 6 mos

Th:Ra is different

Argonne National Laboratory

P.O. BOX 299
LEMONT, ILLINOIS

March 7, 1956

Dr. M. A. Van Dilla
University of Utah
Radiobiology Laboratory
Salt Lake City, Utah

Dear Dr. Van Dilla:

From AECU-3109 I learned that you have a paper on retention and translocation of Ra^{224} to be published in the American Journal of Radiology. If at all possible I would like very much to know the date of publication and if I could have a returnable copy of it, since I will have to refer to it in our publication of a Th^{227} accident.

*Re: Retention of Ra^{224} + Th^{227}
miscellaneous*

The latter occurred through a puncture in the index finger and from our studies we find Ra^{223} - Th^{227} ratio of only 15 percent for the body in general. Have any ideas? Thorium was in the form of chloride. In any event, I hope to discuss the matter in more detail after I acquaint myself more thoroughly with the extent of your work.

Sincerely yours,

L. D. Marinelli
Associate Director
Radiological Physics Division

LDM:lms
cc: Reading File