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UNIVERSITY OF CALIFORNIA — Confirming copy — DIVISION OF RADIATION SAFETY

APPLICATION FOR RADIOISOTOPE

№ 674

1. San Francisco, Medical (Campus) 2. Medicine (Department) 3. M-1344, M-1335, M-1336 (Location(s)—Bldg. and Rooms)

4. James Hopper, Jr., M.D. PX1 (Applicant and Radioisotope Research Experience)

5. a. Dr. Kenneth Scott PX1 b. Barbara Bradley PX1 c.
d. e. f.
Other Personnel: Names and Titles of All Other Personnel Participating in the Project

6. Dr. K. Scott, 22 years working with radio isotopes
Name and Radioisotope Experience of Scientifically Trained Individual Directly Supervising Use of Isotope

7. a. Chromium 51 (Radioelement) 27.5 days (Half-life) Gamma 0.32 mev (Radiation)
b. 30mc (mc)(μc) (Total Quantity) 75 micro c (mc)(μc) (Quantity per Experiment) Procured as needed from the Radioactivity Center-S (No. Shipments per Shi-)
c. Sodium Dichromate (Chemical Form) Solution (Physical State) 1 - 1.5 mg/mc (Specific Activity)

8. Proposed Use:
a. Biological (Sched. A) ☒ b. Course (Sched. B) ☐ c. Human (Sched. C) ☒ d. Radiation Physics ☐ e. Radio-chem. ☐ f. A.E.C. Discount ☒

g. Brief but clear description of use: (If off-campus work is involved state location.)

Technique to be used is that of Sterling and Gray for the measurement of blood volume. Using sterile precautions, 10 to 15 cc. of blood, removed from patient whose blood volume is to be measured, is equilibrated with Cr^{51} after washing three times with 0.9% saline solution an appropriate aliquot will be injected into the patient; and another used to determine radioactivity of stock blood. Samples of blood will thereafter be taken from the patient at suitable intervals for the estimation of radioactivity and calculation of circulating blood volume.

THIS APPLICATION VOID AFTER OCT 27 1953
Project continued or radioisotopes acquired hereunder retained beyond this date requires renewal of application.

A. *Biological use:*
1) Organism Dog and rabbit used for tag No.
2) Individual dose 75 micro c (mc)(μc) No. of doses 1 Frequency of administration 1-2
3) Nature of samples 50 - 75 micro c admin. blood and tissue

B. *Course work:*
1) Course No. No. hours exposed per week
2) No. handling isotopes Amount handled by individual (mc)(μc)

C. *Human use:* (see reverse side)
1. No. of patients 100 - 150 2. a) Age group See reverse side b) Sex both
3. Type of patients (disease) Normal and disordered vascular states.
4. Dose per patient: a) Chemical 1/4cc sod dichromate b) Radiological 50 - 75 (mc)(μc)
5. Frequency and route of administration Not to exceed 5 times in a single pt or 1 time in a healthy subject, given intravenously (see exception, reverse side)
6. Patient to be hospitalized for will not be hospitalized
7. Nature of samples to be measured blood

Endorsements:
Applicant James Hopper Jr. (Sign with pen—do not use ink) Departmental Chairman [signature]

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