

Committee on Radiation Hazards

THE UNIVERSITY OF CHICAGO

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THE DIVISION OF THE BIOLOGICAL SCIENCES
INCLUDING THE SCHOOL OF MEDICINE

Office of the Dean of the Division

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November 29, 1954

Mr. James R. Mason
Chief, Isotopes Division
U.S. Atomic Energy Commission
Oak Ridge, Tennessee

Dear Mr. Mason

Re: 23041

I send you herewith an application for a renewal of our General Authorization for human use for all radioisotopes available except tritium, to be used in The University of Chicago Clinics and the Argonne Cancer Research Hospital. In accordance with our present plans of operations, all human uses are contingent upon approval of the Clinics' Radioisotope Committee and the University's Health Physics Service. All requests are reviewed at formal meetings of the Committee, and copies of the minutes of these meetings are attached. Non-human uses are covered by another General Authorization issued to the University of Chicago.

We benefit greatly from the General Authorization and respectfully request that it be renewed for 1955. A completed AEC Form 313 is attached. A list of the AEC Forms 374 issued during 1954 is also attached. It is anticipated that all of these Forms 374 will be renewed, and that at least six new sources of supply may be required during the coming year. A list of the radioisotopes used clinically during the current year is appended.

Sincerely yours,

BEST COPY AVAILABLE

George V. LeRoy, M.D.
Associate Dean

GVL:gd
Encls:

- List of AEC Forms 374 issued
- List of Radioisotopes used in humans
- Members of Clinics' Radioisotope Committee
- Minutes of Radioisotope Committee
- AEC Form 313

Approved:

William B. Harrell
Vice President (Business Affairs)
University of Chicago

- cc: Mr. Wm. B. Harrell
- Mr. Lester S. Skaggs
- ✓ Mr. Warren C. Johnson

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List of Isotope Suppliers to whom AEC
Forms 374 and 465 were Issued During 1954

- 23041-A - Isotopes Division
Oak Ridge National Laboratory
Oak Ridge, Tennessee
- 23041-B - Abbott Laboratories
Radioactive Pharmaceutical Division
14th and Sheridan
North Chicago, Illinois
- 23041-C - Tracerlab, Inc.
130 High Street
Boston, Massachusetts
- 23041-D - Argonne National Laboratory
Special Service Division (Reactor)
Lemont, Illinois
- 23041-E - Brookhaven National Laboratory
Service Irradiation Division
Upton, Long Island, New York
- 23041-F - Merck and Company, Inc.
Chemical Division
Rahway, New Jersey
- 23041-G - Radioisotope Laboratory
National Naval Medical Center
Bethesda, Maryland
- 23041-H - National Institutes of Health
Bethesda 14, Maryland
- 23041-I - Radioactive Products, Inc.
443 West Congress Street
Detroit, Michigan
- 23041-J - Isotope Specialties Company
3816 San Fernando Road
Glendale, California
- 23041-K - Oak Ridge National Laboratories
Oak Ridge, Tennessee

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Members of Clinics' Radioisotope Committee

Appointed 8 November 1951:

James W. Carpender, M.D.; Associate Professor of Radiology; American Board of Radiology; Head of Radiation Therapy Service, University of Chicago Clinics; 14 years' experience with radiation.

Dwight E. Clark, M.D.; Professor of Surgery; American Board of Surgery; Fellow of the American College of Surgeons; 8 years' clinical experience with radioisotopes.

Robert J. Hasterlik, M.D.; Assistant Professor of Medicine; Director, Health Division, Argonne National Laboratory; Associate Director, Argonne Cancer Research Hospital; 8 years' experience with radiation hazards and radioactivity.

Lester S. Skaggs, Ph.D. Associate Professor, Medical Physics, Section of Radiology, Department of Medicine; Director, Health Physics Service; Member, Institute of Nuclear Studies; 16 years' experience with radiation and accelerators.

Robert W. Wissler, M.D.; Assistant Professor of Pathology; American Board of Pathology; 6 years' experience with radioisotopes in immunological research.

George V. LeRoy, M.D.; Associate Professor of Medicine; American Board of Internal Medicine (1942); formerly Director, Radioisotope Unit, V.A. Hospital, Hines, Illinois; 7 years' clinical experience with radioisotopes.

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Human Uses of Radioisotopes - 1954

<u>Isotope</u>	<u>Use</u>
H ³ -Tritium	As T-Cholesterol to study cholesterol and steroid hormone metabolism. As T-streptomycin to study therapy of tuberculosis.
C ¹⁴	As l-C ¹⁴ -acetate, to study cholesterol and steroid hormone metabolism. As C ¹⁴ -isoniazid, to study distribution in tuberculous patients. As C ¹⁴ -para amino salicylic acid, to study distribution in tuberculous patients. As C ¹⁴ O ₂ to produce biosynthetically labelled digitoxin, colchicine, podophyllin and ragweed antigen for human studies. As C ¹⁴ -acetyl-labelled colchicine to study metabolism in patients with cancer and gout.
Na ²²	As Na ²² Cl to study electrolyte behavior in pregnancy.
P ³²	To treat leukemia, polycythemia, eosinophilic granuloma of bone, and Hand-Schuller-Christian disease. To measure red cell volum by <u>in vitro</u> labelling of cells.
Cr ⁵¹	As Na ₂ Cr ⁵¹ O ₄ , to label red cells to study survival time, blood volume, and action of hemolytic agents.
Fe ⁵⁹	To study iron metabolism.
Co ⁶⁰	As irradiation source, and as B ¹² Co ⁶⁰
Y ⁹⁰	As irradiation sources in pellets for radiation-hypophysectomy
I ¹³¹	As NaI ¹³¹ for diagnosis and treatment of thyroid disorders. As I ¹³¹ labelled human serum albumin for measurement of blood volume, for study of intestinal digestive function, and for use with the Scintiscanner.

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<u>Isotope</u>	<u>Use</u>
I ¹³¹ (Cont'd)	As I ¹³¹ labelled globulin for immuologic studies and for study of prateolysis.
	As carrier-free NaI ¹³¹ for interstitial irradiation using five-bore polyethylene tubing implanted in tumor.
Tm ¹⁷⁰	As radiographic source.
Au ¹⁹⁸	As colloidal radiogold for intracavitary irradiation therapy.
Hg ²⁰³	As tracer to study uptake by malignant renal tissue.
Radium products	For interstitial and contact therapy.
Sr ⁸⁵	For tracer studies
Sulfur 35	For tracer studies

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