

4-181-3

Form AEC-913
(9-55)

ATOMIC ENERGY COMMISSION
APPLICATION FOR BYPRODUCT MATERIAL LICENSE

Form approved,
Budget Bureau No. 38-2027.2

INSTRUCTIONS: Complete Items 1 through 19 if this is a new application. If renewal is requested, complete only Items 1 through 11 provided that with respect to the other items there has been no change in the information previously submitted. Mail two copies to: U. S. Atomic Energy Commission, P. O. Box E, Oak Ridge, Tennessee, Attention: Isotopes Extension, Division of Civilian Application. Upon approval of this application, the applicant will receive an AEC Byproduct Material License. General requirements for issuance of an AEC Byproduct Material License are contained in Title 10, Code of Federal Regulations, Part 30

1. (a) NAME AND SHIPPING ADDRESS OF APPLICANT
(Institution, firm, hospital, person, etc.)
**General Medical and Surgical Hospital,
Radioisotope Service, Veterans Administration
Center, Los Angeles, 25, California**

(b) ADDRESS(ES) AT WHICH BYPRODUCT MATERIAL WILL BE USED
(If different from shipping address)

2. DEPARTMENT TO USE BYPRODUCT MATERIAL

Chromatography Section

3. INDIVIDUAL USER (Name and title of individual(s) who will use or directly supervise use of byproduct material)

William Drall, Ph.D., Established Investigator American Heart Association

4. RADIOLOGICAL SAFETY OFFICER (Name of person qualified in radiological safety, if other than individual user)

William H. Blahd, M.D., Assistant Chief, Radioisotope Service

5. PREVIOUS LICENSE OR AUTHORIZATION NUMBER (If this is an application for renewal of a license for byproduct material obtained under a prior license or authorization for radioisotope procurement)

39199

BYPRODUCT MATERIAL OR IRRADIATION SERVICE DESIRED

6. BYPRODUCT MATERIAL (Element and mass number)

C14

7. CHEMICAL AND/OR PHYSICAL FORM (Or catalog number)

BaC14O3

8. MAXIMUM AMOUNT OF RADIOACTIVITY IN MILLICURIES THAT YOU WILL POSSESS AT ANY ONE TIME

200 millicuries

9. IF IRRADIATION SERVICE IS DESIRED, STATE PERTINENT DETAILS SUCH AS: CHEMICAL COMPOSITION AND WEIGHT IN GRAMS OF TARGET MATERIAL, RADIOACTIVITY, IRRADIATION TIME IN DAYS, AND NEUTRON FLUX

STATEMENT OF USE

10. (a) DESCRIBE PURPOSE FOR WHICH BYPRODUCT MATERIAL WILL BE USED. (If material is for "human use" complete Supplement A in lieu of this item. If material is to be used in or manufactured as a "sealed source" complete Supplement B in addition to this item.)

The BaC14O3 will be converted into C14 glycine and postulated precursors of the sympathomimetic amines of high specific activity and their rate of conversion into sympathin in organs and tissues of various animals will be studied by adsorption, ion-exchange, and paper chromatography.

(b) DESCRIBE PROCEDURES WHICH WILL BE OBSERVED TO MINIMIZE HAZARD FROM HANDLING, STORAGE, AND DISPOSAL OF THE BYPRODUCT MATERIAL

CERTIFICATE

11. The applicant and any official executing this certificate on behalf of the applicant named in Item 1, certify that this application is prepared in conformity with Title 10, Code of Federal Regulations, Part 30, and do solemnly swear (or affirm) that all information contained herein, including any supplements attached hereto, is true and correct to the best of our knowledge and belief.

State of **California**
County of **Los Angeles**

Veterans Administration

Applicant named in Item 1

Subscribed and sworn to before me this **28th**
day of **June**, **1956**

By

William H. Blahd

William H. Blahd, Asst. Chief, Radioisotope Service

Title of Certifying Official

Notary Public

John A. Clement
By Commission Expires **Mar. 22, 1959**

Date

A. GRAHAM KOSLEY, JR.
Chief, Radioisotope Division

WARNING

18 U. S. C., Section 1001; Act of June 25, 1948; 62 Stat. 749; makes it a criminal offense to make a willfully false statement or representation to any department or agency of the United States as to any matter within its jurisdiction.

Atomic Energy Commission

434

(Continued on reverse side)

Veterans Administration

INSTRUCTIONS: Complete Items 12 through 19 if this is a new application. This information may be omitted from subsequent applications provided there is no change in the information previously submitted, and reference is made in Item 5 to the application on which this information appears.

TRAINING AND EXPERIENCE WITH RADIOACTIVITY OF INDIVIDUAL USER NAMED IN ITEM 3

TYPE OF TRAINING	WHERE TRAINED	DURATION OF TRAINING	ON THE JOB (Circle answer)		FORMAL COURSE (Circle answer)	
			Yes	No	Yes	No
1. Principles and practices of radiological health safety.	See Application - License No. 39199		Yes	No	Yes	No
2. Radioactivity measurement standardization and monitoring techniques and instruments			Yes	No	Yes	No
3. Mathematics and calculations basic to the use and measurement of radioactivity.			Yes	No	Yes	No
4. Biological effects of radiation.			Yes	No	Yes	No
Actual use of radioisotopes in the types and quantities for which application is being made, or equivalent experience			Yes	No	Yes	No

ISOTOPE HANDLING EXPERIENCE

ISOTOPE	MAXIMUM AMOUNT	WHERE EXPERIENCE WAS GAINED	DURATION OF EXPERIENCE	TYPE OF USE

14. If Radiological Safety Officer named in Item 4 is different from individual user named in Item 3, use supplementary sheet to provide equivalent information on "Training and Experience With Radioactivity of Radiological Safety Officer." Supplementary sheet is attached (Circle answer) **See previous application for this station**

PHYSICAL FACILITIES, EQUIPMENT, AND RADIATION INSTRUMENTATION

15. RADIATION DETECTION INSTRUMENTS (Use separate sheet if necessary)

TYPE OF INSTRUMENTS (Include make and model number of each)	NUMBER AVAILABLE	RADIATION DETECTED	SENSITIVITY RANGE (at ft)	WINDOW THICKNESS (mg/cm ²)	USE (Monitoring, surveying, measuring)
See licence No. 4-181-2					

16. TLM BADGES, DOSIMETERS, AND OTHER PERSONNEL MONITORING DEVICES INCLUDING BIO-ASSAY PROCEDURES

See License No. 4-181-2

17. METHOD, FREQUENCY, AND STANDARDS USED IN CALIBRATING INSTRUMENTS LISTED ABOVE (For film badges specify method of calibration and processing, or name supplier)

See License No. 4-181-2

18. (a) DESCRIBE BRIEFLY REMOTE HANDLING EQUIPMENT, STORAGE CONTAINERS, SHIELDING, AND LABORATORY FACILITIES (Working areas, fume hoods, etc.)

See License No. 4-181-2

(b) SKETCHES OF SUCH FACILITIES ARE ATTACHED (Circle answer)

Yes No

19. DESCRIBE BRIEFLY RADIATION SURVEYING PROCEDURES AND METHODS OF DISPOSING OF RADIOACTIVE WASTES

See License No. 4-181-2

APPLICATION FOR RADIOISOTOPE PROCUREMENT

FOLLOW ATTACHED INSTRUCTIONS

39199

LEAVE BLANK

TO: U. S. ATOMIC ENERGY COMMISSION, POST OFFICE BOX E, OAK RIDGE, TENNESSEE, ATTENTION: ISOTOPES DIVISION

1. NAME AND ADDRESS OF APPLICANT *(Follow Instruction No. 1A)*
**General Medical and Surgical Hospital, Radioisotope Service,
 Veterans Administration Center, Wilshire & Sawtelle Blyds., Los Angeles 25, California**

2. DEPARTMENT TO USE ISOTOPE *(Follow Instruction No. 2B)*
Arthritis Section

3. NAME AND ADDRESS OF INDIVIDUAL USER *(Follow Instruction No. 3)*
**Dr. Drell, Ph.D., Asst. Research Chemist, Dept. of Physiol. Chem., UCLA Medical Center,
 Los Angeles 24, Calif., and Frans K. Bauer, M.D., Chief, Radioisotope Service, address as above.**

4. EXPERIENCE OF THE USER *(Follow Instruction No. 5B)*
Dr. Drell, Ph.D., The Application of Nuclear Physics to the Biological & Medical Sciences, UCLA Extension Course, August 1948. Research in progress involves animal & tissue work as well as chromatography in studies on C¹⁴ labeled arterenal and C¹⁴ labeled hydroxytyramine. Frans K. Bauer, M.D. See previous applications from this Service.

RADIOISOTOPE REQUESTED *(Follow Instruction No. 6)*

5. ISOTOPE <i>(Follow Instruction No. 6A)</i> C¹⁴	6. CHEMICAL FORM <i>(Follow Instruction No. 6B)</i> C₂H₅C¹⁴O₂	7. QUANTITY (Mils, Curies or Fractions) <i>(Follow Instruction No. 6C)</i> 1.5 millicurie	8. OTHER SPECIFICATIONS <i>(Follow Instruction No. 6D)</i> None
9. ITEM NO. <i>(Follow Instruction No. 7A)</i> -	10. NAME AND ADDRESS OF SUPPLIER, IF KNOWN <i>(Follow Instruction No. 7B)</i> California Foundation for Biochemical Research 3408 Fowler Street, Los Angeles 63, California		

STATEMENT OF USE *(Follow Instruction No. 8)*

11. STATE PROPOSED USE OF RADIOISOTOPE MATERIAL AND GENERAL PLAN OF INVESTIGATION

The C¹⁴ labeled glycine is to be fed to patients having gout in order to determine the pathway of the biosynthesis of uric acid. The dosage will not exceed 100 microcuries per patient per single dose at intervals of not less than two weeks. The uric acid labeling will be determined and intermediates isolated from the urine by adsorption, ion exchange, and paper chromatography will be studied for glycine incorporation. Work on pigeon, rat, and isolated enzyme systems will also be carried out.

Please send original to supplier

12. WILL THE RADIOISOTOPE BE USED BY HUMAN BEINGS? *(Follow Instruction No. 9)* CIRCLE YOUR ANSWER YES NO

13. A. NUMBER OF DOSES <i>(Follow Instruction No. 10A)</i> Maximum of 0.1	B. NUMBER OF EXPOSURES <i>(Follow Instruction No. 10B)</i> Maximum of 3	C. NUMBER AND TYPE OF PATIENTS <i>(Follow Instruction No. 10C)</i> 2 leukemias & 3 gouty	D. COMPOUND ADMINISTERED <i>(Follow Instruction No. 10D)</i> Glycine 1-C¹⁴	E. SAMPLE TO BE TAKEN FOR MEASUREMENT <i>(Follow Instruction No. 10E)</i> Blood and urine
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14. APPROVAL OF THE USER'S LOCAL ISOTOPE COMMITTEE *(Follow Instruction No. 11)*
 IF THE LOCAL ISOTOPE COMMITTEE APPROVES THE HUMAN USE AS INDICATED IN ITEMS 12-13: **STAFFORD L. KAHRE, M.D.**

15. WILL THE RADIOISOTOPE BE USED IN CONNECTION WITH ANIMALS? CIRCLE YOUR ANSWER YES NO

16. IS A RADIOISOTOPE FORM BEING USED IN THIS APPLICATION? CIRCLE YOUR ANSWER YES NO

17. MAKE IT ISOTOPES DIVISION PLEASE GENERAL INFORMATION REGARDING MATERIAL USED AND PURPOSE *(Follow Instruction No. 12)*
... .., JR. ISOTOPES DIVISION

READ THE TERMS AND CONDITIONS ON THE BACK OF THIS SHEET AND SIGN THE CERTIFICATE THAT FOLLOWS—AN UNSIGNED APPLICATION CANNOT BE CONSIDERED