

The University of Texas Health Science Center at San Antonio
 Environmental Health & Safety Department
 Radiation Safety Division

RADIOACTIVE MATERIAL AUTHORIZATION

____ INITIAL APPLICATION ____ AMENDMENT TO CURRENT AUTHORIZATION

APPLICATION MUST BE TYPED

1) Principal Investigator _____ Office Telephone _____
 Department _____ Section _____ Lab Telephone _____

2) Laboratory(s) at which radioactive material will be used and/or stored _____

3) List name and Title of Personnel Handling Radioactive Material

4) List Radioactive Material, Chemical and/or Physical Form and Max. Activity Limit

Nuclide	Chemical/Physical Form	Maximum Activity Limit

5) Describe purpose for **each** radioactive isotope that will be used and complete Form A.

6) Waste Disposal: The Investigator Will Comply with the waste disposal requirements issued by the Radiation Safety Office. Indicate the type of waste expected.

Solid Waste: GLASS _____ PLASTIC _____ NEEDLES _____
 Liquid Waste: ORGANIC SOLVENTS _____ AQUEOUS LIQUIDS _____ CARCINOGENS _____
 Other: SCINTILLATION VIALS _____ ANIMAL TISSUE _____ BIOHAZARDOUS _____

- 7) Instrumentation: An investigator must have access to a liquid scintillation counter and/or gamma counter to perform wipe tests. He must also have access to a survey meter when using millicurie amounts of high energy beta emitters and gamma emitters. List equipment available

TYPE OF INSTRUMENT (make and model)	RADIATION DETECTED (beta and/or gamma)	RANGE OF SURVEY METER (i.e. 1 to 250 mR/hr)

Survey meters shall be calibrated once a year by either the RSO or another qualified party. Please indicate the name of the company or person if "other" is indicated.

Radiation Safety Office _____ Other _____

- 8) Facilities and Equipment:
- a) **SUBMIT A DIAGRAM OF EACH LABORATORY** indicating radioactive work areas, sinks, refrigerators, freezers, fume hoods, desk areas, etc.
- b) Please check the items below which are applicable to your laboratory.

Laboratory Requirements

- _____ Plastic-backed absorbent paper will cover each work area.
- _____ A fume hood will be utilized for radioisotope work.
- _____ A biohazard cabinet will be utilized for radioisotope work.
- _____ Iodination's will be performed. Laboratory Room # _____
- _____ Lead shielding will be used for the radioisotope
- _____ Plexiglas/Plastic shielding will be used for the radioisotope.
- _____ Gloves and laboratory coats will be utilized as protective clothing.
- _____ Remove handling tools (forceps, tongs, etc.) and the lead shipping containers will be utilized when handling large quantities of high energy beta and gamma emitters.
- _____ Personnel dosimeters will be worn and returned as required by the Manual.
- _____ Thyroid checks will be obtained for personnel using unbound radioiodine.
- _____ Wipe tests will be performed and recorded WEEKLY.

Security: Specify the precautions and procedures which will be taken during your possession of the Radioactive Material to secure and prevent any unauthorized access and removal of the material.

Contamination Control: Specify the precautions and procedures which will be taken to prevent excessive levels of radiation or contamination in the work or adjacent areas.

Posting Requirements: The documents listed below are to be posted or kept in EACH laboratory. Check items that are currently in each laboratory.

- _____ “Notice to Employees”
- _____ “The Following Regulation and Documents May Be Examined...”
- _____ Emergency Telephone List
- _____ Radiation Safety Handbook (April, 1996 edition)
- _____ Radiation Labels (door, refrigerator, work areas, fume hood, waste containers, etc.)

- 9) Animal Use: Complete the attached form “In Vivo Radioactive Material Containment” and submit with this application.
- 10) Training and Experience with Radiation: Complete the form “radioisotope training and experience: for **EACH** individual that is listed on items 1 and 3.
- 11) Human Use of Radioactive Material: The research or clinical application of Human use of Radioactive material must be submitted in addition to this application.
- 12) **CERTIFICATION: THE PRINCIPAL INVESTIGATOR CERTIFIES THAT HE/SHE WILL COMPLY WITH THE RADIATION SAFETY HANDBOOK, THE BROAD LICENSE REQUIREMENTS AND THE POLICIES ESTABLISHED BY THE RADIATION SAFETY SUBCOMMITTEE AND INSTRUCTIONS ISSUED BY RADIATION SAFETY OFFICE, THAT ALL INFORMATION CONTAINED HEREIN, INCLUDING ANY SUPPLEMENTS ATTACHED, IS TRUE AND CORRECT TO THE BEST OF HIS/HER KNOWLEDGE AND BELIEF.**

Principal Investigator’s Signature

Date

Department Chairman’s Signature

Date

IN VIVO RADIOACTIVE MATERIAL CONTAINMENT

PROTOCOL# _____ PROTOCOL TITLE _____

1. Will you utilize animals? ___ Yes ___ No
 (If Yes complete items 1 - 6, sign and return) (If No sign and complete the bottom line of form)

List radioisotope being used _____ Animal(s) being used _____

Number of animal(s) _____

2. Activity administered per animal _____ Average weight of animal _____

3. Will the animals be terminated within 24 hrs? ___ Yes ___ No
 If not, estimate longevity following isotope administration. _____

4. Where will the radioactivity be administered? Room # _____

5. Where will the animals be housed? ___ LAR facilities ___ Your laboratory

6. Routes and quantity of excretion of radioactive material.

Routes	Percentage of Isotope Excreted
_____ Urine	_____
_____ Feces	_____
_____ Aerosol	_____
_____ Fur	_____
_____	_____

7. Who will be responsible for the disposal of the animals in accordance with the Radiation Safety Office regulations?

8. Who will be responsible for decontaminating the animal cages, sipper tubes, etc., prior to LAR's normal cage sanitizing procedure?

Principal investigators and laboratory supervisors working with radioactive materials are the ones primarily responsible for control of these materials. Before work commences in animals, instructions must be given to animal care and technical personnel concerning contamination, containment procedures and what to do in cases of personal injury or accidents. This can be arranged through the LAR office at least five (5) days prior to animal housing. The Radiation Safety Office will provide technical assistance to LAR on containment and handling procedures for radioactive animals housed in LAR facilities.

 PI Signature

 Date

 Department

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RADIOISOTOPE TRAINING AND EXPERIENCE

TRAINING FORM IS REQUIRED FOR EACH PERSON LISTED IN APPLICATION

Name _____ Department/Division _____

Principal Investigator _____ Date _____

FORMAL TRAINING: Indicate if you have attended a radiation safety course.

_____ UTHSCSA Radiation Orientation (1 1/2 hr.) Date _____

_____ UTHSCSA/STVHCS Fund of Radiation Safety (9 hr.) Date _____

Name or Type of Training Course _____ Duration (hrs.) _____

Where _____ Date _____

Name or Type of Training Course _____ Duration (hrs.) _____

Where _____ Date _____

ON-THE-JOB TRAINING:

Where	Duration

EXPERIENCE WITH RADIATION (Actual Use of Radioisotopes or Equivalent Experience):

Isotope	Maximum Amount Handled	Where Experience Was Gained	Duration	Type of Use

 Individual's Signature

 Date

 Department

FORM A
Radioactive Material Procedures Form

Type of Radionuclide Procedures and Experiments

- Northern Blots
- Southern Blots
- Western Blots
- Nuclear Run-On Assays
- Kinase Assay (^{33}P ATP)
- Metabolic Labeling of Proteins (^3H , ^{14}C , ^{35}S)
- Receptor Ligand Binding Assay (^{125}I)
- Iodination's (^{125}I , ^{131}I)
- DNA Sequencing (^{35}S , ^{32}P , ^{33}P)
- In Situ* Hybridization
- Other _____

Processes: Check all that apply to this experiment

- Mixing, Vortexing
- Application of Suction
- Heating, Boiling
- Application of Electrical Current
- pH Adjustment or Other Chemical Reactions
- Procedure Necessitating Work on Open Bench top
- Transport from One Facility to another
- Use of Syringes or Other Sharps
- Mechanical Processes Possibly Causing Explosions, Fire or High Pressure
- Other _____