APPENDIX A - GENERAL RULES FOR THE SAFE USE OF RADIOACTIVE MATERIALS

General Guidelines

- Radioactive material users will familiarize themselves with the experimental protocols, special precautions, and any required equipment prior to performing the procedure.
- Before attempting an experiment for the first time, perform a 'dry run', using water or saline instead of the radioisotope solution.
- Work only in designated areas.
- Immediately report any unsafe situation to the Principal Investigator, and to the Radiation Safety Officer.

Personal Protective Equipment (PPE)

- Wear a laboratory coat or other protective clothing, disposable gloves, close-toed shoes and eye protection at all times when using radioactive materials.
- PPE such as lab coats and gloves should not be worn outside the laboratory.

Contamination Control

- All work bench areas must be covered with absorbent paper. Absorbent paper must be checked for contamination after each use.
- Whenever possible, work with radioactive solutions or storage of liquid radioactive solutions should be confined to a tray or vessel capable of containing the entire volume of the radioactive material.
- Before beginning an experiment, assemble all materials, reagents and equipment necessary to perform the experiment.
- Monitor hands, shoes, and clothing for contamination after each procedure or before leaving the area.
- Perform contamination and radiation surveys as directed. Record the results on the Inventory and Tracking Sheet.
- Do not eat, drink, smoke, apply cosmetics or change contact lenses in any area where radioactive material is stored or used.
- Do not store food, drink, or personal effects in areas where radioactive material is stored or used.
- Never pipette by mouth.
- Dispose of radioactive waste only in designated, approved, labeled and properly shielded receptacles.

Exposure Control

- Shielding materials must be available for specific isotopes used in the lab. Use lead shielding for gamma emitters; Plexiglas for high energy beta emitters.
- Radioactive materials must be adequately shielded on all sides to maintain exposures at less than 2 mR/hr at one foot from the source.
If applicable, wear film badges at all times while in areas where radioactive materials are used or stored. Badges should be worn at chest or waist level. When film badges are not being worn to monitor occupational exposure, they should be stored in a designated low-background area.

- All unstable and/or volatile radioactive materials must be used in chemical fume hoods.
- Follow any additional safety precautions provided by the radioisotope manufacturer or vendor. Maintain a copy of any package inserts.

**Labeling**

- All countertops where radioactive materials are used must be clearly defined and labeled with the radiation symbol.
- All hoods in which radioactive materials are used must be clearly labeled with the radiation symbol.
- All sinks in which radioactive material is introduced by cleaning of contaminated lab ware must be clearly labeled with the radiation symbol.
- Any equipment in which radioactive material is used must be clearly labeled with the radiation symbol (*Centrifuges, incubators, etc.*).