COMPLETE A SEPARATE PAGE FOR EACH PROJECT

Project Title: _____

1. Radionuclide and form to be used: _____
2. Activity to be used: _____
3. Number of procedures to be done per month: _____
4. Duration of project: _____
5. What type(s) and quantity(s) of radioactive waste will you generate? (Write below)

   _____
6. Will you dispose of radioactive waste via sewer (sink)?_____
7. If animals are to be used, indicate: Type: _____

   Number: _____

   Maximum Activity (Microcuries): _____

   IACUC Approved Project Number: _____
8. Use of volatile radionuclides requires an approved fume hood

   Indicate Room # and Hood to be used: _____
9. Use of high energy beta emitters and all gamma emitters require a survey meter. No more than two approved users may share a meter.

   Indicate: Make: _____

   Model: _____

   Probe Type: _____
10. Use of high energy beta has been properly instructed for project protocols and radiation safety procedures

    Yes: _____ **No:** _____ **Please Initial:** _____
11. Confirm that your staff has been properly trained and instructed for project protocols and radiation safety procedures.

    Yes: _____ **No:** _____ **Please Initial:** _____

12. Please provide a brief description on the following page.

PLEASE PROVIDE A BRIEF PROJECT DESCRIPTION OF YOUR PROJECT:

EXAMPLE: Project Title: Radiolabeled Vitamin C Uptake Inhibition Assay
P.I.: Jeffrey G. Sarver, Assistant Research Professor, College of Pharmacy

Vitamin C analogs will be assayed for their competitive inhibition of ^{14}C-labeled vitamin C uptake in cells overexpressing the SVCT2 carrier-mediated vitamin C transporter. The methods used will be modeled after Dalpiaz et al (*European Journal of Pharmaceutical Sciences*, **24**, pp. 259-269, 2005) and Prasad et al (*Biochimica et Biophysica Acta*,**1369,** pp. 141-151, 1998). Human retinal pigment epithelium (HRPE) cells or human placental choriocarcinoma JAR cells will be seeded and grown to confluence in 96 well plates. The cell media will be replaced with uptake media containing 2.5-5.0 uM ^{14}C-vitamin C (up to 6 uCi/uM), along with 1 nM to 1mM of the vitamin C analog being tested, and cells will be incubated for 60 min. The uptake buffer will then be removed and the cells will be washed twice with ice-cold buffer. The cells will then be solubilized with 100 ul per well 0.2 M NaOH containing 1% SDS surfactant, 150 ul Packard Ultima Gold scintillation cocktail will be added to each well, plates will be sealed, and maintained in the College of Pharmacy. Inhibition of the ^{14}C-vitamin C uptake will be analyzed by comparison of cell radioactivity to cells incubated without added vitamin C analogs. Inhibitory constants (K_i values) will be calculated for each of the vitamin C analogs being tested.

Up to six 96 well plates will be used in each assay procedure, with a total of 20-40 uCi of ^{14}C-labeled vitamin C utilized per procedure. Liquid wastes (labeled uptake buffer and solubilized cells/scintillation cocktail) will be discarded down the sink, while solid wastes (96 well plates, labeled solution troughs, etc.) will be stored in a radioactive waste bin for appropriate disposal.

Project title: _____

P.I.: _____