

Radiochemistry Core Guide to Ordering

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Purpose: This guide serves as a step-by-step guide for researchers to use when ordering radioisotopes/radiopharmaceuticals from the VUIIS Radiochemistry Core.

This document is divided into three possible types of orders:

- 1) Ordering radioisotopes/radiopharmaceuticals for use within the Center for Small Animal Imaging (CSAI)
- 2) Ordering radioisotopes/radiopharmaceuticals prepared by the Radiochemistry Core for human use or general research use
- 3) Ordering commercially available radiopharmaceuticals for human use on the VUIIS Human Imaging Core human PET/CT

Key Requirements/Policies:

- 1) To order a radioisotope or radiopharmaceutical from the Radiochemistry Core, you must have an active iLab Account. Speak to your business administrator to obtain an account.
- 2) An active center number must be in iLab and associated with the PI ordering the material.
- 3) A minimum of 24 hours must be given for all radiotracer requests. If ordering a radiotracer for human administration, a minimum of 48 hours notice is ideal.
- 4) All radiochemistry order cancellations require **24 Hours Notice** and must be supplied via email to both Yiu-Yin (YY) Cheung (yiui-yin.cheung@vumc.org) and Adam Rosenberg (adam.j.rosenberg@vumc.org). It is the PI's responsibility to also cancel all other reserved equipment (i.e. scanners).

Ordering Procedures

Ordering radioisotopes/radiopharmaceuticals for use within the Center for Small Animal Imaging (CSAI)

- 1) All orders must be placed through the CSAI. To start a new project contact Jarrod True (jarrod.m.true@vumc.org) and refer to the CSAI Information page (<https://vuiis.vumc.org/centers/smallanimalimaging>).
- 2) All reservations for use of the microPET, microSPECT or autoradiography scanners will be done on iLab and require an online form to be completed. When completing the online form in iLab, you must specify the desired radiopharmaceutical you wish to use and complete a short form.
- 3) Once the request has been made, the radiochemistry core will automatically receive the request for services and schedule delivery of the radiopharmaceutical to the CSAI.
- 4) If there are any issues, the CSAI and/or Radiochemistry Core will be in touch.

Ordering radioisotopes/radiopharmaceuticals prepared by the Radiochemistry Core for human use or general research use

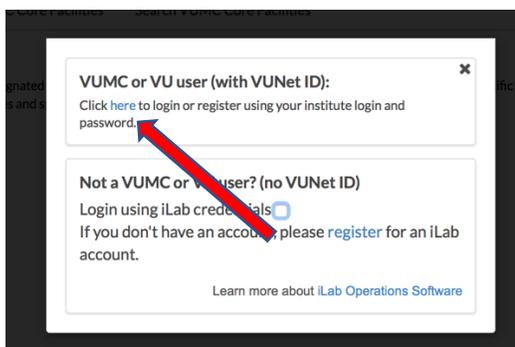
1) Go to the iLab website (<https://vumc.corefacilities.org/landing/54>) and click on the login located in the upper right corner.



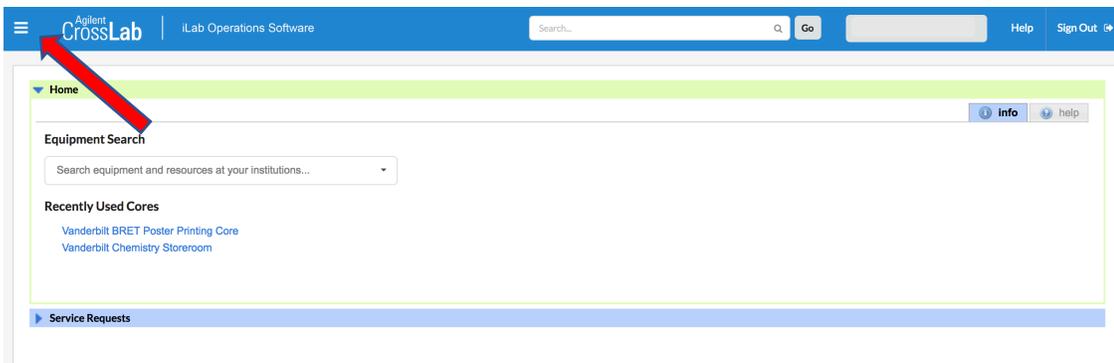
Welcome

Biomedical research at VUMC is supported by designated institutional cores and shared resources. These facilities offer cutting edge scientific services, enabling access to high-end equipment, advanced techniques and specialized expertise for all Vanderbilt investigators.

2) Select your affiliation and enter your credentials (VUNetID and Password):



3) Once logged in a page similar to the one below will be displayed. Click on the three horizontal lines in the upper left corner. This will open a new menu on the left.



4) Once open, click on "Core Facilities".

5) A list of all VU and VUMC cores will be displayed. Scroll down the page and click on “**VUMC Institute of Imaging Science (VUIIS)-Radiochemistry**”.

6) Once the Radiochemistry Core opens, click on the tab “Request Services”

VUMC Institute of Imaging Science (VUIIS) - Radiochemistry

VANDERBILT UNIVERSITY
MEDICAL CENTER

Request Services

Overview of Services

What we can do for you

The mission of the VUIIS Research Radiochemistry Core Laboratory is to help Vanderbilt Investigators (1) develop and translate novel radiopharmaceuticals to patients, (2) non-invasively visualize and quantify molecular events in preclinical in vivo models and patients, and (3) conduct clinical trials that feature molecular imaging endpoints.

Description

The Core Laboratory is housed within the VUMC PET center in Robinson Research Building. The laboratory consists of separate cGMP, preclinical, and research radiochemistry laboratories in contiguous space immediately adjacent to Vanderbilt's cyclotron and Radiopharmacy. Using the GE 130 uA PETTrace, the Core can produce ^{18}F , ^{11}C , ^{68}Ga , ^{13}N , and related radionuclides on a routine basis. In addition to cyclotron-produced isotopes, the radiochemistry core has access to SPECT isotopes and generator-produced positron emitters, including $^{99\text{m}}\text{Tc}$, ^{111}In , and ^{123}I .

The Radiochemistry Core also operates a dedicated SPECT isotope labeling facility. This lab has been equipped with an activated charcoal filtered hood for the manipulation of iodine isotopes and has been outfitted with the latest equipment for the purification and identification of the compounds being prepared.

Resources

Newly renovated radiochemistry facility housed in the VUMC PET Center

- GE 130 uA PETTrace – negative-ion cyclotron optimized for generating ^{18}F , ^{11}C , ^{68}Ga , ^{13}N , and related radionuclides
- 2 Von Gahlen hot cells with CRL manipulators and three Von Gahlen "dual mini-cells" dedicated to the production of tracers for both human and animal
- 1 Comerac hotcell with a dose dispensing system.
- 2 Radiation Shielding hot cells with Tru-Motion manipulators dedicated to new tracer discovery and animal production
- 2 GE Tracerlab FX-FN fluorination modules
- 1 GE Tracerlab FX-C Pro gas phase ^{11}C methyl iodide/methylation module
- 1 GE Tracerlab FX2N dual-reactor automated radiosynthesis module
- 1 GE Fastlab 2 with HPLC+ cassette radiosynthesis module (specialized use only)
- 1 iPhase Flexlab dual-reactor automated radiosynthesis module
- 1 iPhase Multisyn automated cassette radiosynthesis module
- 1 Sofie ELIXYS FLEX/CHEM customizable cassette radiosynthesis module with PURE/FORM add-on
- 2 GE-MX Production Modules
- Bioscan Radio-TLC scanners
- Amerscan automated dose dispenser
- Multiple analytical and semi-open HPLC systems with radiometric: UV, and FI/SD detectors

7) With the “Request Services” tab, scroll down to the “Services & Rates” section. There are four categories that can be selected:

- a) **Radioisotope:** This includes raw radioisotopes that can use used for experiments.
- b) **Radiotracers:** This includes all of the radiopharmaceuticals prepared in house for both animal and human use.
- c) **Assays:** This includes assays that the Radiochemistry core performs, including radiometabolite analysis. (Note: Contact Adam Rosenberg or YY Cheung prior to planning any of these assays.)
- d) **Radiopharmacy:** This includes radiopharmaceuticals that are commercially available and provided as a service through the Radiochemistry Core.
- e) **Hourly Rates:** This is for internal use only.

8) Click on the desired category to open a new menu displaying the products available.

9) Select the desired product by clicking on the “request service” bottom located to the right of the name. This will open a new menu.

10) In the new menu, the identity of the product being ordered will appear at the top. In the dropdown menu (please select which lab the request is for) select the lab for which you are ordering the product.

VUMC Institute of Imaging Science (VUIIS) - Radiochemistry

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Ga-PSMA

Please select which lab the request is for:

please select a lab 





11) A new form will appear with details on the item you are ordering and several required questions:

Amount Needed in mCi: This is the ideal amount you would need to be delivered.

Date Needed: Date of your study

Requestor: The person that is filling in the form and/or the ideal person to ask questions of regarding the form. This does not have to be the PI.

Is this for human use?: Check “yes” or “no”

If you check “yes” go to step 12. If you check “no” go to step 13.

Where will this tracer be delivered?: The location where the experiment/study requires the delivery.

12) Selection of “yes” for human use will open additional required options to fill in.

Add the Human Production Fee: Ensure that the Number 1 is present in the box to the left of the “Human Production Fee” and click the “Add selected services” button. A line item for the human production fee will be added to the bottom of the form.

Dose required for subject administration (mCi): This number is defined within the approved scanning protocols. If the dose is reported in Megabecquerels, provide this number with the specified unit of MBq.

Estimated Time of Injection: This is the estimated time when the subject will be injected with the radiopharmaceutical. This may coincide with the start of scanning or may be prior to the start (uptake time).
am or pm: time designator

Approved RDRC/IRB Protocol Number: Provide either an approved RDRC or IRB protocol number.

Authorized User (Nucl Med Physician): Provide the name of an authorized Nuc Med Physician that is associated with the study/protocol.

DO NOT update the quantity of the service line item when requesting services. Please complete the form in it's entirety.



★ Amount Needed (mCi)

★ Date Needed 

★ Requestor

Human Use Details Add row(s) 

Human Use Details

★ Is this for human use? Yes No

An additional fee is required for preparing items for Human use. These are instructions for how many units of the Human Production Fee should be included per request. The user must enter the quantity and then click Add Selected Services.

★ Human Production Fee   Selected charges added (see below). Click only to add again.

★ Dose required for subject administration (mCi)

★ Estimated Time of Injection

★ am pm

★ Approved RDRC/IRB Protocol Number

★ Authorized User (Nucl Med Physician)

13) Scroll down to section 3 of the page which contains all of the payment details. Select the Billing number from the dropdown menu. (Note: if you wish to split the charge between multiple center numbers, you can click the “Split Charge” button and add a second center number with specific percentages for each.)

14) Once complete, click on the “Submit” button.

Ordering commercially available radiopharmaceuticals for human use on the VUIIS Human Imaging Core human PET/CT

1) Follow steps 1-6 above to access the Radiochemistry Core iLab ordering page.

2) At the top of the Request Services tab page, there is a category called “Project & Quote Request” under this category you can find all of the products offered commercially for human use (Amyvid, FDG and Sodium Fluoride).

3) To the right of the desired product click the “Request Service” button.

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▼ [Project & Quote Request](#)

Amyvid Request (Project Request) To request Amyvid, click "request service" to the right.	request service \$3,386.00 (External VU)
FDG for Human Use (Project Request) To request FDG for Human Use, click "request service" to the right.	request service \$139.00 (External VU)
Sodium [18F] Fluoride for Human Use (Project Request) To request Sodium [18F] Fluoride for Human Use, click "request service" to the right.	request service \$150.00 (External VU)
New Radiotracer Production Request (Project Request) To request new radiotracer production, click "request service" to the right and complete the questionnaire.	request service



4) Follow steps 10 – 14 as described above.