



AGORA/CHUV Lausanne, Switzerland

State-of-the-art facilities including hot and cold chemistry lab, small animal imaging platform and GMP radiopharmacy for the advancement of diagnostics and targeted therapies



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1. PRISMAP biomedical facility: AGORA/CHUV

The AGORA research centre at the Centre Hospitalier Universitaire Vaudois (CHUV) is the flagship of the Swiss Cancer Centre Léman. It is located in Lausanne, Switzerland at ~70 km from CERN and ~200 km from PSI; which are the two closest PRISMAP productions centres.

The radionuclides from the PRISMAP portfolio that are already approved in the AGORA/CHUV biomedical facility are listed in Table 1. Additional radionuclides can be made available upon request. A complete list can be requested at helpdesk@prismap.eu.

Table 1: PRISMAP radionuclides already approved for use in the AGORA/CHUV facility.

Radionuclide	Remark
Sc-47	Immediately usable.
Cu-64	Immediately usable. Dose calibrator, gamma counter and microPET normalized and calibrated for this radionuclide.
Cu-67	Immediately usable.
Ba/Cs128	Immediately usable. Dose calibrator, gamma counter and microPET normalized and calibrated for this radionuclide.
Tb-149	Immediately usable.
Tb-152	Immediately usable. Dose calibrator, gamma counter and microPET normalized and calibrated for this radionuclide.
Tb-155	Immediately available.

AGORA/CHUV is fully equipped to conduct preclinical research with novel radionuclides and radiotracers. Three premises are available:

- i) The preclinical research labs, including cold and hot chemistry labs, cell culture rooms and rooms dedicated for biodistributions and microPET/SPECT/CT imaging (Si78 Albira Bruker). The cold chemistry lab is fully equipped for solid phase peptide synthesis and encompasses, but is not limited to, several rotary evaporators (Hei-VAP Expert; Heidolph), analytical and preparatory state of the art HPLC systems (Shimadzu), a compact mass spectrometer (Expression¹ CMS; Advion) with direct mass analysis of TLC plates (Plate Express; Advion) and a lyophiliser (alpha 1-2 LSCplus; CHRIST). Lab space is equipped with fume hoods. The main equipment of the hot laboratory includes a radio-HPLC (SHIMADZU with a Gabi radiodetector; Raytest), a radio-TLC scanner (Scan-RAM; Lablogic), a gamma counter (Wizard3", PerkinElmer), dose calibrators (VIK-202, Veenstra), a cell harvester (FilterMate Harvester; PerkinElmer) and an automatic synthesis module (GRP, att Scintomics).
- ii) The GMP accredited radiopharmacy is equipped with high and low energy hot cells (Comecer) radiosynthesizer (Tracis and Ekert), QC laboratory with iTLC (miniGita; Raytest) and radioHPLC (UltiMate 3000; Thermo scientific with Gabi radiodetector; Raytest). Gamma counter (Hidex). Gas chromatography system (6850, Agilent Technologies).
- iii) The in vivo imaging facility (IVIF) includes one microPET/SPECT/CT (Albira SI; Bruker) and one microPET/CT (Si78; Bruker) as well as one MRI 3T (BioSpec 30/18; Bruker), optical imaging systems (IVIS Lumina S5; PerkinElmer), two-photon microscopes (TCS SP8 DIVE; Leica), focal irradiator (X-RAD SmArt; PXi), etc. Consult the IVIF website for an exhaustive list: <https://wp.unil.ch/ivif/equipment/>

The Nuclear Medicine and Molecular Imaging department at CHUV can offer support for the advancement of your radiotracers into first in human clinical trials.

Table 2 reports the specification for the microPET and SPECT detectors.

Table 2: microPET and SPECT detector specifications.

Scanner	Modality	Detector technology	Collimators	File type	Reconstruction algorithm	Animal	Gating
microPET/SPECT/CT (Albira Si; Bruker) ¹ & microPET/CT (Si78; Bruker) ²	PET	LYSO crystals SiPM with DOI	NA	List mode or raw data	MLEM, OSEM, MAP Photopeaks and energy windows can be modified by the user	1-3 animals. ECG, respiration temperature monitoring. Heating pad. Isoflurane	Cardiac and respiratory
	SPECT	Dual head camera system CsI(Na) crystals Energy range: 30 – 400 keV	Pinhole, Multipinhole	List mode or raw data. Dynamic capabilities in planar mode	OSEM Photopeaks and energy windows can be modified by the user	1-3 animals. ECG, respiration temperature monitoring. Heating pad. Isoflurane	Cardiac or respiratory

For further technical details, please contact our helpdesk at: helpdesk@primap.eu.



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¹ https://www.bruker.com/en/products-and-solutions/preclinical-imaging/nmi/albirasi/_jcr_content/root/sections/more_information/sectionpar/linklist/contentpar-1/calltoaction.download-asset.pdf/links/item0/AlbiraSi_Brochure_T14907.pdf

² https://www.bruker.com/en/products-and-solutions/preclinical-imaging/nmi/pet-ct/_jcr_content/root/sections/highlights/sectionpar/highlightfacts/contentpar-4/highlightitem.download-asset.pdf/link/PET-CT_brochure.pdf