PRISMAP+

Medical-Radionuclides.eu

Core ARTH Infinity/UGent
Ghent, Belgium

State-of-the-art facility for preclinical multimodal imaging and image-guided radiation treatment

PRISMAP+ Biomedical Facility UGent

Based at the Ghent University Hospital campus, Core ARTH Infinity brings together expertise from the Faculty of Medicine & Health Sciences and the Faculty of Engineering & Architecture at Ghent University. The facility provides advanced preclinical imaging services to accelerate the development, validation, and evaluation of radiopharmaceuticals and other therapeutic innovations.

The radionuclides from the PRISMAP+ portfolio that are already approved in the Core ARTH Infinity/UGent biomedical facility are listed in Table 1. Additional radionuclides can be made available upon request.

Table 1. Radionuclides from the PRISMAP+ portfolio that can be used at the Core ARTH Infinity/UGent facility.

Radionuclide	Max. Activity, MBq	Remarks
F-18	500000	
Sc-43	200	At small animal facility (0 MBq)
Sc-44	200	At small animal facility (0 MBq)
Ti-45	6000	At small animal facility (0 MBq)
Mn-52	6000	At small animal facility (1000 MBq)
Cu-64	60000	At small animal facility (2500 MBq)
Cu-67	60000	At small animal facility (1500 MBq)
Ga-67	5000	At small animal facility (0 MBq)
Pd-103	60000	At small animal facility (7500 MBq)
Ag-111	1100	At small animal facility (4000 MBq)
Ba-131	500	At small animal facility (0 MBq)
Cs-131	500	At small animal facility (0 MBq)
La-135	15000	At small animal facility (3000 MBq)
Er-165	4000	At small animal facility (1000 MBq)
At-211	200 MBq	At small animal facility (100 MBq)

The permission for handling Ag-111 and Cs-131 will be extended soon. The license for radionuclides use at the small animal facility can also be extended.

Infrastructure and experiments available

The Core ARTH Infinity/UGent facility is fully equipped to conduct radiolabeling studies, as well as animal imaging and therapy studies.

Core ARTH Infinity provides several preclinical services to support the development and evaluation of radiopharmaceuticals and other therapeutic agents. Services include radiotracer synthesis, in vivo biodistribution studies, and molecular imaging using state-of-the-art µPET-CT and µSPECT-CT systems. The facility also offers complementary imaging modalities including µMRI, in vivo optical imaging (i.e., bioluminescence and fluorescence), and ultrasound, enabling multimodal data acquisition. In addition, autoradiography is available for high-resolution tissue distribution studies, and a small animal radiotherapy platform allows for image-guided radiation delivery to mimic clinical treatment scenarios.

The facility obtained EQIPD (Enhancing Quality in Preclinical Data) accreditation. This internationally recognized framework promotes rigor, reproducibility, and transparency in preclinical research, ensuring the generation of robust and high-quality scientific data. This commitment to quality, combined with advanced infrastructure and expertise, positions Core ARTH Infinity as an ideal partner for translational research.

Details regarding the equipment available for imaging at the Core ARTH Infinity/UGent biomedical facility can be found in Table 2.

Table 2. Imaging equipment details.

Equipment	Modality	Remarks
Bruker B-CUBE + X-CUBE	PET-CT	
Bruker Y-CUBE + X-CUBE	SPECT-CT	
X-CUBE	CT	
Perkin Elmer IVIS Lumina LT	Optical imaging	
Precision X-Ray Smart+	Radiotherapy	
Bruker Pharmascan 7T	MRI	

Visit online for an overview of the infrastructures and of the laboratory.

Animal models available

- Healthy animals
- Nude animals
- Rats
- Mice
- Tumour bearing animals available via PDX Core Facility models

Support available

The support available to the users before, during and after their visit at the Core ARTH Infinity/UGent biomedical facility can be found in Table 3.

Table 3. Support available at the Core ARTH Infinity/UGent biomedical facility.

Support	Remarks
Assistance to apply for experiment permission	
Assistance with project writing	
Help/supervision with radiolabeling	
Help/supervision with radiolabeling quality control	
Help/supervision with labeled compound stability studies	
Help/supervision with animal handling	
Help/supervision with animal scanning	
Help/supervision with image generation and analysis	
Help with results processing and interpretation	
Help with publication writing	

Services available

The services available at the Core ARTH Infinity/UGent biomedical facility (without the presence of the user) can be found in Table 4.

Table 4. Services available at the Core ARTH Infinity/UGent biomedical facility.

Service	Remarks
Activity measurement, dose calibrator	
Activity measurement, gamma spectrometry	
Radiolabeling according to protocol provided by the user	
Formulation of radiolabeled compound for cell incubation or animal injection	
Radiolabeling quality control TLC	
Radiolabeling quality control HPLC	
Growing cell lines provided by user	
Cell irradiation experiments using cell lines provided by user	
Radiopharmaceutical stability in non-biological media	
Radiopharmaceutical stability in biological media	
Animal preparation (healthy animals)	
Animal preparation (tumor-bearing animals, external model)	
Animal handling (injection, scanning process, sacrifice)	
Animal handling follow-up	