



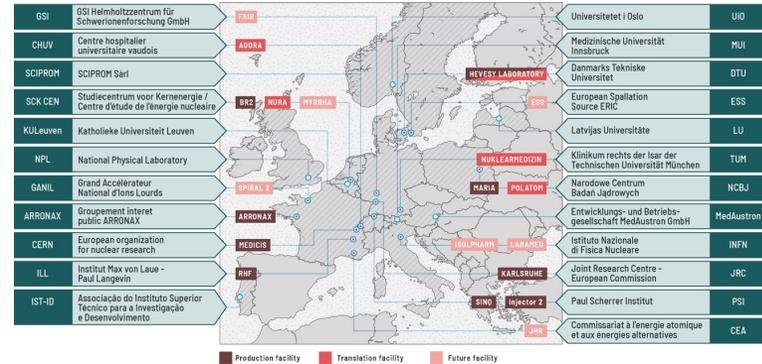
TOWARDS OUR 2ND CALL FOR PROJECTS

Outcome of 1st call and towards 2nd call for projects

APPLY FOR RADIONUCLIDES !!

15th June 2022

PRISMAP : The European medical radionuclide programme after a little more than 1 year !



Open key national and regional research infrastructures to all European researchers

Submitted to the INFRA-2-2020 Call During the (1st) COVID outbreak ...

Today

9 projects were selected at our 1st call
 COVID is back to sleep (until when ?)
 But yet another crisis has risen (Riga's neighbor is a country in war)

We are about to launch our 2nd call for projects

Objectives of the project

- 1. Provide access to new radionuclides and new purity grades for medical research**
- 2. Create a common entry port and web interface for the starting research community**
- 3. Enhance clarity and regulatory procedures to promote research with radiopharmaceuticals**
- 4. Unlock the biomedical research through better data on radionuclides**
- 5. Ensure the long-term sustainability of PRISMAP**

The consortium : production facilities

MEDICIS

European organization for nuclear research - CERN



PSI

Paul Scherrer Institut – PSI



Hevesy Laboratory

Danmarks Tekniske Universitet – DTU



BR2

Belgian Nuclear Research Centre — SCK CEN



ARRONAX

Groupement interet public ARRONAX — ARRONAX



RHF

Institut Max von Laue - Paul Langevin – ILL



JRC Karlsruhe

Joint Research Centre - European Commission – JRC



NCBJ

Narodowe Centrum Badań Jądrowych — NCBJ



While ILL is in shutdown, most of the facilities will be providing radionuclides for the 1st call for project

The consortium : biomedical research facilities

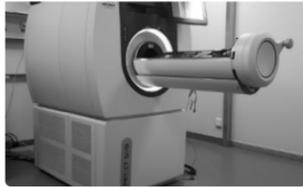
Hevesy Laboratory

Danmarks Tekniske Universitet – DTU



Agora

Centre hospitalier universitaire vaudois — CHUV



Nura

Studiecentrum voor Kernenergie / Centre d'étude de l'énergie nucléaire — SCK CEN



Nuklearmedizin

Klinikum rechts der Isar der Technischen Universität München — TUM



POLATOM

Narodowe Centrum Badań Jądrowych – NCBJ



TUM  Munich, Germany

Services available

Targeting agent and chelator development

Radiolabelling strategy

Preclinical studies

Chemical and radiochemical characterisation

In vitro characterisation

In vivo characterisation

Toxicity/dosimetry

Regulatory documents

Radiopharmaceutical GMP manufacturing

Clinical trial

Prismap.eu – day one isotopes



Home

Consortium

Access platform

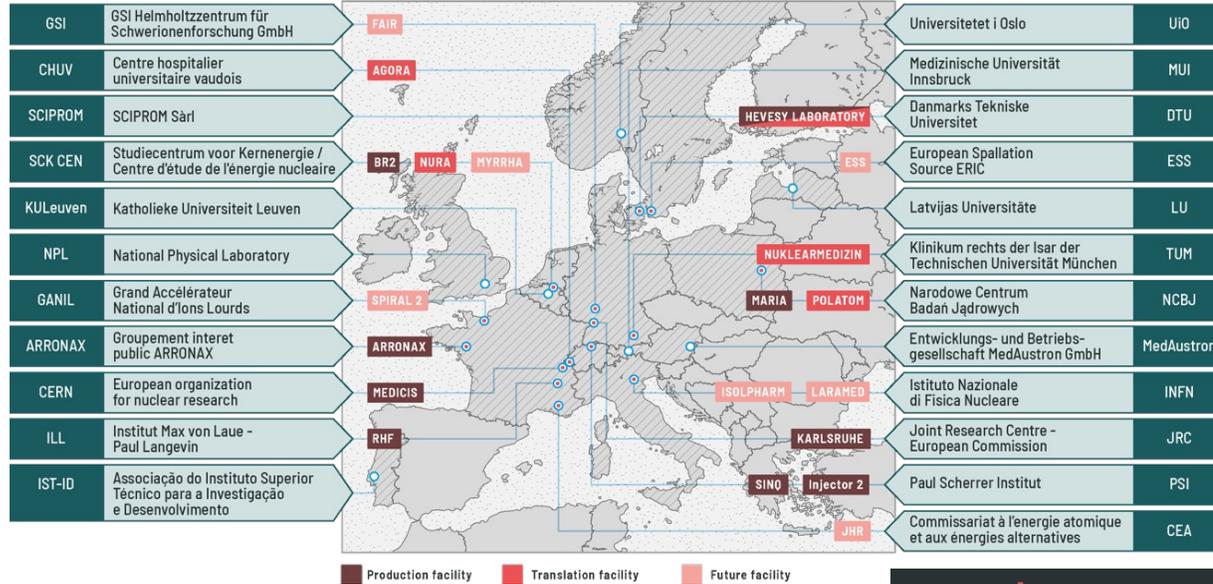
Medical radionuclides



Parameter	Specification
Half-life	4.04 h
Daughter	Stable Ca-44
Branching Ratio/Decay	94.3% β^+ , 5.7% EC
Production	Ca-44(p,n)Sc-44 [or Ca-44(d,2n)Sc-44 at ARRANAX]
Purification	1 or 2 steps column separation
Chemical Form	In 0.05 M HCl, 0.1 M HCl, 4.85 M NaCl/0.13 M HCl or 1 M NaOAc
Specific Activity	2 GBq/mg
Radionuclidic Purity	99.8% (0.2% Sc-44m)
Radiochemical Purity	Labelling up to 25 MBq/nmol DOTANOC or DOTATATE
Identification	1157 keV gamma line present
Appearance	Clear and colourless solution
pH	Depends on chemical form
Activity available	Up to 1 GBq
Availability	On demand
Grade	Research grade or preclinical grade, n.c.a.



Prismap.eu – 9 projects were selected out of 12



PRISMAP Medical Radionuclides

Home Consortium Access platform Medical radionuclides

211 At Astatine	213 Bi Bismuth	225 Ac Actinium	149 Tb Terbium	152 Tb Terbium	155 Tb Terbium	161 Tb Terbium	165 Er Erbium
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User Selection Panel – What is it ?

■ <https://www.prismap.eu/access/selection-procedure/>

Internal members

Thierry Stora

European organization for nuclear research – CERN

PRISMAP coordinator and PRISMAP programme leader

Charlotte Duchemin

European organization for nuclear research – CERN

Radionuclide production schedule and overall logistical chain including transport and applications

Ferid Haddad

Groupement d'intérêt public ARRONAX

PRISMAP access platform and help desk

Ulli Köster

Institut Max von Laue - Paul Langevin

PRISMAP production of medical radionuclides

David Viertl

Centre hospitalier universitaire vaudois – CHUV

PRISMAP medical application of radionuclides

Kirsten Leufgen

SCIPROM Sàrl

PRISMAP communication, legal and financial affairs

External members

Francesco Cicone

Magna Graecia University of Catanzaro

Nuclear medicine specialist with particular focus on radionuclide therapy and dosimetry and on amino acid PET imaging of brain tumours, PRISMAP ethics advisor.

Sandra Heskamp

Radboud University Medical Centre

Professor of Nuclear Imaging and Therapy in Immuno-oncology, preclinical.

Cornelia Hoehr

University of Victoria/Canada TRIUMF particle accelerator centre

Life Sciences Department Head - R&D, Deputy Associate Laboratory Director - Life Sciences, Research interests in Targetry & Accelerator-Based Medical Isotope Development and in Nuclear Medicine.

Paul Lecoq

Metacrystal SA

Head of physics division, European academy of sciences (EURASC), fellow of the IEEE association, founder of the European Center for Research in Medical Imaging, SME representative, extensive experience with H2020 projects.

Kristoff Muylle

Vrije Universiteit Brussel

Former president of EANM, large network in NM, Head of Nuclear Medicine Department at AZ Delta, Nuclear Medicine Physician at UZ Brussel.

Katherine Vallis

University of Oxford

Professor of Experimental Radiotherapeutics, Group Leader at Oxford Institute for Radiation Oncology, Honorary Consultant in Clinical Oncology at Oxford University Hospitals NHS Trust, radiopharm, new isotopes, therapy.

Project submitted in 2 files (part A+B)
scientific part B : 1-4 is used to make a 1st evaluation

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Question raised, hearings are organized
Final decision

Output of the project

- <https://www.prismap.eu/about/outcomes/>
 - Jensen, Mikael, Naidoo, Clive, Bertreix, Philippe, Frosio, Thomas, Viertel, David, Köster, Ulli, & Cocolios, Thomas Elias. (2022). Prismap D9.1-First public report from the PRISMAP work package 9 (WP9, transport and logistics) (1.0). Zenodo. <https://doi.org/10.5281/zenodo.6606494>
 - Decristoforo, C., Hayashi, S. F., Bordeau, C., Haddad, F., Viertel, D., Deville, C., Naidoo, C., Pedersen, K. S., Jensen, M., Köster, U., Correia, J. G., Gano, L., Bruchertseifer, F., Baete, K., Mikolajczak, R., Collins, S., Geistlich, S., Van Der Meulen, N., Ponsard, B., Van De Voorde, M. & Campillos, M., Standards for clinical translation. (2022). doi: 10.5281/ZENODO.6599181
 - Cocolios, Thomas Elias, ., Dooms, Lucas, ., Ferrari, Piero, ., Payne, Oliver, . & Bernerd, Cyril, .DFT calculations for Ca and Ti containing molecules.(2022). doi: 10.5281/ZENODO.6607408

Where are the projects coming from ?

Added Value using Terbium-161 over Lutetium-177 in Combination with the metabolically more stable GRPR Ligand AMTG for Targeted Radiotherapy of GRPR-expressing Malignancies? – A Preclinical Evaluation

Dr. rer. nat. Thomas Günther, Chair of Pharmaceutical Radiochemistry
TU Munich (DE)

Development and preclinical evaluation of a mesothelin-targeting theranostic agent (161Tb)

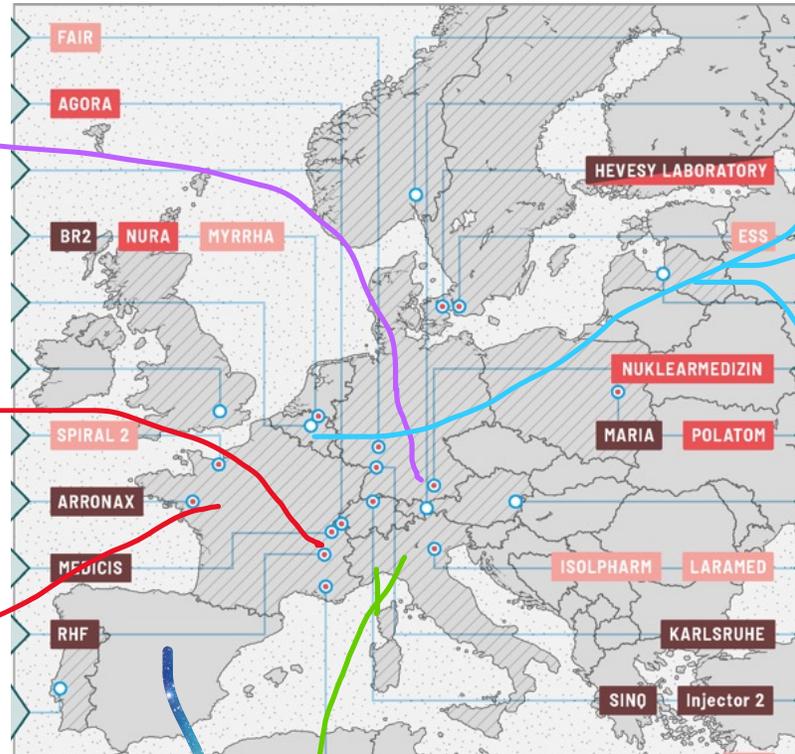
Dr Boissat, UGA – Inserm, La Tronche (FR)

Imaging applications of 165Er and its surrogate 155Tb (Otto-165)

Mr Isidro Da Silva , CEMHTI Radiochemistry
Orleans (FR)

Selective oncological theragnostic based on radioactively labeled exosomes (TheragnEso) (161Tb)

Dr Beatriz Salinas Rodríguez
Radiochemistry unit,
Fundación para la investigación Biomédica del Hospital Gregorio Marañón
Madrid (ES)



Improved FAP-radiotheranostics for personalized cancer treatment (211At)

Pr. Filipe Elvas, Molecular Imaging Center
Antwerp (BE)

Dedicated phantom measurements to develop and validate quantitative 225Ac- (micro)SPECT imaging (213Bi)

Dr Michel Koole, Imaging and Pathology
KU Leuven (BE)

The FIAPo project: Feasibility of increased 211At production by 210Po assessment

ir Matthijs Sevenois, In vivo cellular & molecular imaging lab (ICMI)
VU Brussels (BE)

Towards 161Tb-PSMA cell targeting treatment of prostate cancer biochemical recurrence: Comparison with 177Lu-PSMA

Dr. Margarita Kirienko, Fondazione IRCCS Istituto Nazionale dei Tumori Milano (IT)

Dual 152Tb/149Tb radiolabeling and preclinical validation of an AAZTA-FAPi ligand for diagnostic and theranostic applications

Prof. Enzo Terreno, Department of Molecular Biotechnology and Health Sciences , Torino (IT)

PRISMAP.EU – What's coming next – 2nd call

- Our web interface : <https://www.prismap.eu/radionuclides/portfolio/>



Parameter	Specification
Half-life	4.04 h
Daughter	Stable Ca-44
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Radiochemical Purity	Labelling up to 25 MBq/nmol DOTANOC or DOTATATE
Identification	1157 keV gamma line present
Appearance	Clear and colourless solution
pH	Depends on chemical form
Activity available	Up to 1 GBq
Availability	On demand
Grade	Research grade or preclinical grade, n.c.a.

New radionuclides

(43Sc, 52Mn, 103Pd, 165Tm, 199Au, 229Th)

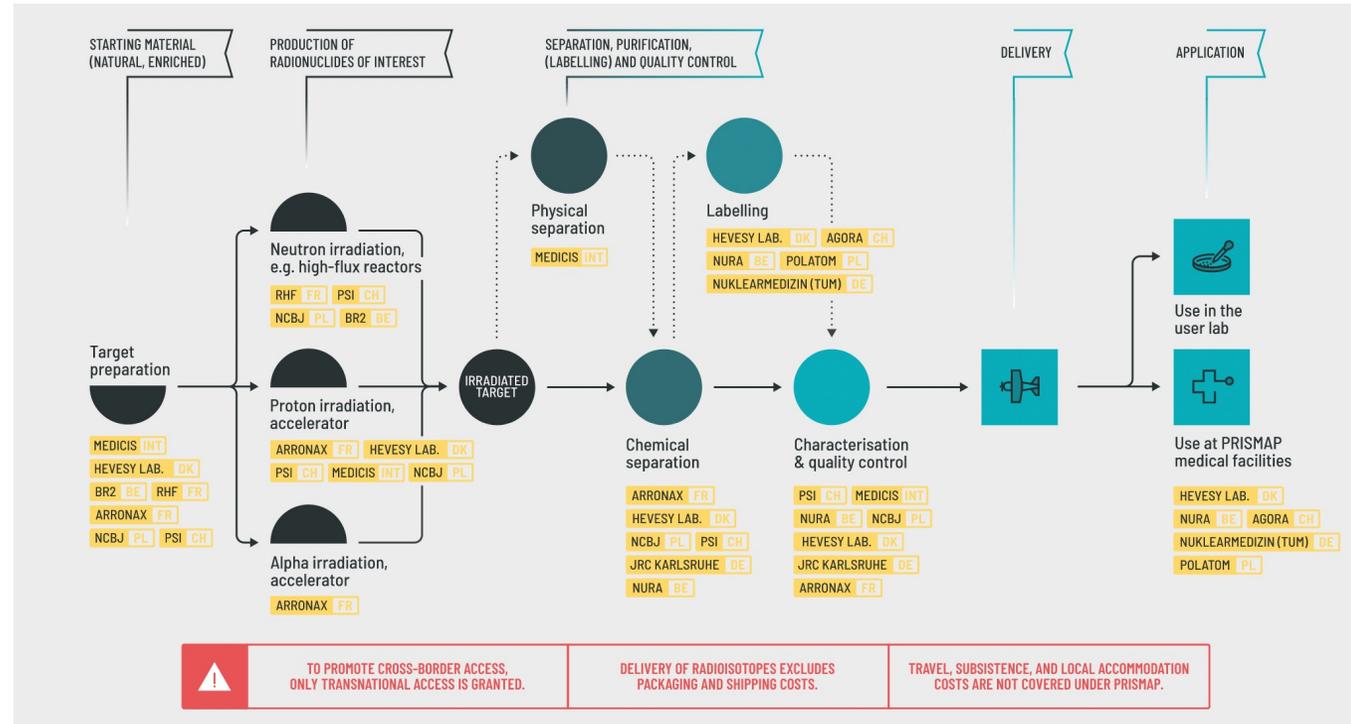
Additional standardized data provided

PRISMAP technical manager position open



Experimental program coordinator for MEDICIS and PRISMAP (SY-STI-RBS-2022-60-LD)

<https://jobs.smartrecruiters.com/CERN/743999831975545-experimental-program-coordinator-for-medicis-and-prismap-sy-sti-rbs-2022-60-ld->



PRISMAP.EU – What’s coming next – 2nd call

- <https://www.prismap.eu/radionuclides/medical-facilities/>

Additional details provided to the biomedical facilities hosting services and research teams



PRISMAP Medical Radionuclides

Home Consortium Access platform Medical radionuclides

Centre Hospitalier Universitaire Lausanne – CHUV Lausanne, Switzerland

Support for targeting agent and chelator development
Support for radiolabelling strategy and instrumentation for quality controls

Preclinical studies

- Chemical and radiochemical characterisation of the tracers selected
- In vitro characterisation studies
 - Internalisation and intracellular/subcellular distribution studies
 - Dissociation studies
 - Blocking studies
 - Efficacy/functional assay
 - Cell proliferation assay
 - Metabolite analysis
 - Radiopharmaceutical stability during storage
 - Serum stability
 - Non-radioactive supporting experiments
- In vivo characterisation
 - In vivo stability studies
 - Metabolite analysis
 - Tracer biodistribution studies
 - microPET/SPECT imaging
 - Efficacy assay
 - Radiotoxicity and dosimetry study

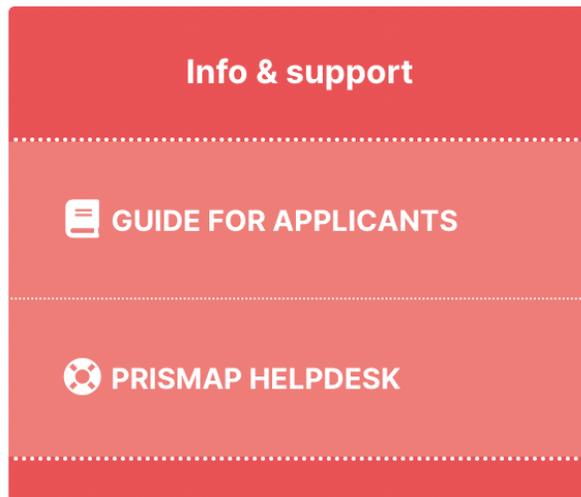
Guidance to write regulatory documents to apply for clinical studies
Radiopharmaceutical GMP manufacturing and related documentation
Support to conduct clinical trial, general organisation and contact to authority

The Department of Nuclear Medicine and Molecular Imaging at (CHUV) and the Translational Laboratory of Radiopharmaceutical Sciences at the Cancer Research Centre AGORA compose the Lausanne Swiss translational platform. CHUV is a world leading university hospital (employs more than 11 600 people of 106 different nationalities, has treated more than 51 200 patients in 2019, and is among the top 5 Swiss hospitals and the top 10 in the world, Newsweek magazine's 2019 ranking). Collaborating also with the Faculty of Biology and Medicine, University of Lausanne, CHUV plays a leading role on a European scale in the fields of medical care, medical research and education. It is equipped with leading edge equipment (including quantitative SPECT/CT and last generation Si PET scanners), is ISO9001:2015 certified and is accredited as PET Centre of Excellence through EARL, and comprises a GMP accredited radiopharmacy facility. The department leads or participates in several clinical trials. AGORA is the flagship of the Swiss Cancer Centre Léman, an alliance of leading institutions (CHUV, University Hospital Geneva, Lausanne and Geneva Universities, the Swiss Federal Institute of Technology) and its partner (the ISREC Foundation and the Ludwig Cancer Research).

The laboratory of Radiopharmaceutical Sciences designs and perform synthesis, preclinical characterisation of targeted probes for in vivo imaging and theranostic applications in the wider context of immunoncology. It identifies novel targets for selective imaging, and makes subsequent tracer development and optimisation. It performs preclinical advances on theranostic concepts such as Chemokine receptor-targeted agents, within the framework of immunotherapies and combination therapies. The overarching goal of these efforts is the development of imaging tools for improved patient selection in the context of immune therapies in different cancer entities. The service can support the development of new radiotracers from the bench to preclinical study and its translation into relevant clinical applications. It is fully equipped to allow the production of innovative molecules and their evaluation with in vitro and in vivo models. The μ PET/SPECT/CT platform which is necessary to establish proof of concept for clinically promising radiotracers is part of the IVIF (in vivo imaging facility) which hosts several preclinical imaging modalities such as MRI, CT, optical imaging and dual photon microscopy in addition to a μ PET/SPECT/CT and a μ PET/CT scanner. Translation into clinical application is ensured by the radiopharmacy facility accredited for GMP production and the clinical trials can be organised and conducted at the Department of Nuclear Medicine and Molecular Imaging. All the infrastructures are located on the same site.

PRISMAP.EU – What's coming next – 2nd call

- Our guide for Applicants: <https://www.prismap.eu/access/application-guidelines/>



Call for user projects 
Guide for applicants 

- Helpdesk : <https://www.prismap.eu/access/helpdesk/>



DO YOU WANT TO DEVELOP A NEW PROJECT WITH A NEW RADIONUCLIDE ? APPLY !



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