

BIOEMTECH SERVICES & PRODUCTS

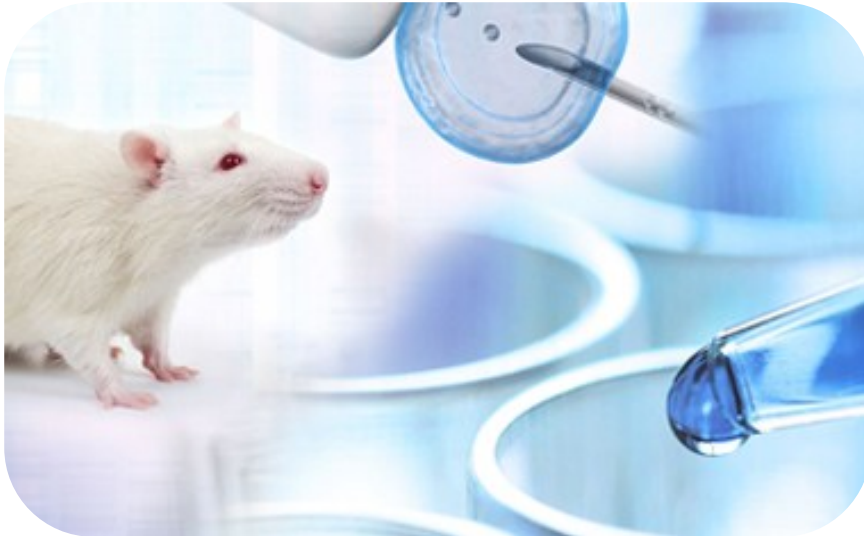
NOVEMBER 2025

An abstract graphic of a molecular structure, composed of dark grey and black circles of various sizes connected by thin lines, resembling a network or a complex molecule. It is positioned on the right side of the slide, partially overlapping the dark green background.

 BIOEMTECH

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THE COMPANY



Preclinical studies

Imaging systems



β -eye™



CRO STUDIES



- Protocol set up and project consulting
- Multiple *in vitro* assays
- Chemistry assays and conjugation establishment
- Radiolabelling set-up + QCs
- Stability assays
- Animal model development
- Multimodal *in vivo* imaging + *ex vivo* biodistributions
- Dosimetry analysis & consultation
- Clinical Chemistry assays
- GLP Toxicology assays
- Therapy Efficacy studies (incl. combination therapies)
- GLP Histopathology (outsourced)

PRODUCTS



β eye™

PET tracers

2D+ & 3D+



γ eye™

SPECT tracers
Theragnostics agents

2D+
optimised for α -emitters



Φ eye™

FLI/BLI/SWIR dyes



Vital Signs

monitoring **Respiratory,**
Temperature, ECG



Phantoms

Mouse & Rat

OUR ESTABLISHED MODELS

- Ovarian cancer (SKOV-3)
- Breast cancer (4T1 & 4T1-Luc)
- Breast cancer (MDA-MB-231)
- Lung cancer (SHP77, A549 & H358)
- Colon cancer (HT29)
- Colorectal cancer (SW480)
- Pancreatic cancer (AR42J & BxPC-3)
- Glioblastoma (U87MG & U87MG-Luc)
- Prostate cancer (LNCaP, VCaP, & PC-3)
- Lung fibrosis (established evaluation platform)
- Myocardial Infarction (mice & rats)
- NAFLD (established evaluation platform)
- Arthritis (established evaluation platform)
- Crohn's disease (colon fibrosis)
- Access to a wide range of **genetically engineered mice** (humanized, KO, disease models, custom model generation)
- *These models are readily available and can be initiated immediately after the beginning of a new study. For any other line, the model can be easily set up with a brief pilot study, to establish the tumour growth curves and optimal settings.*

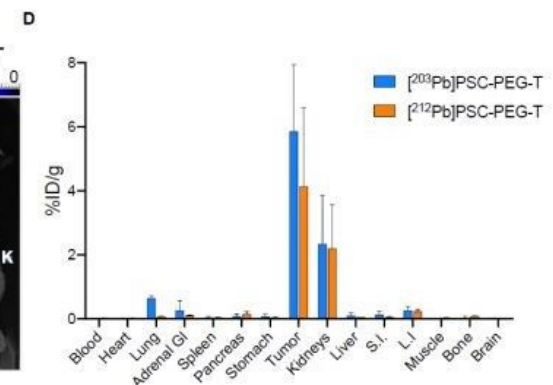
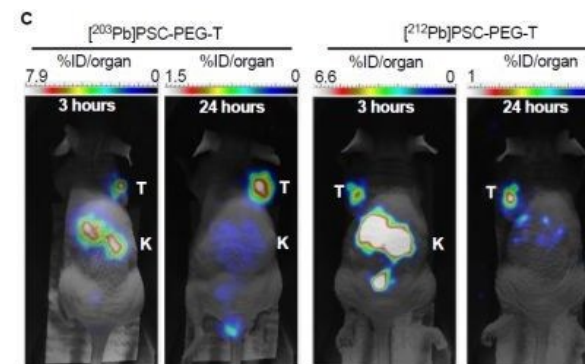
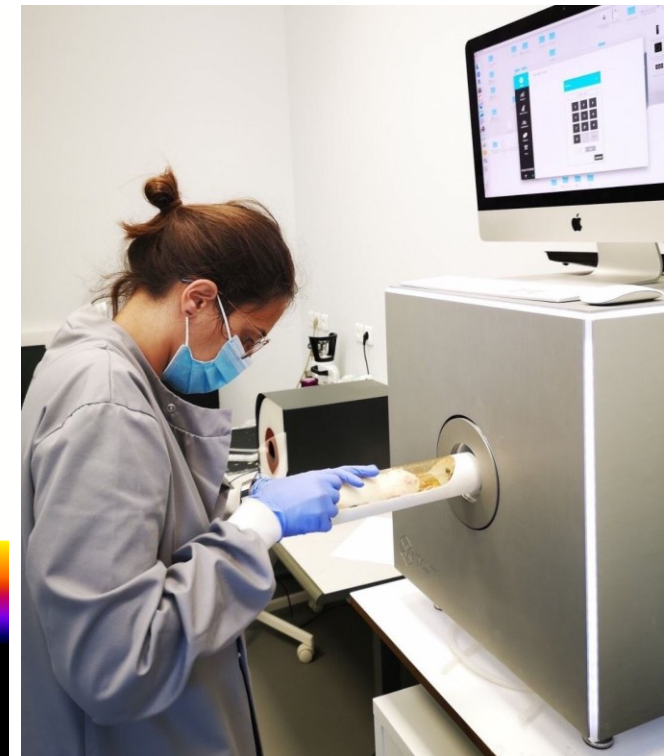
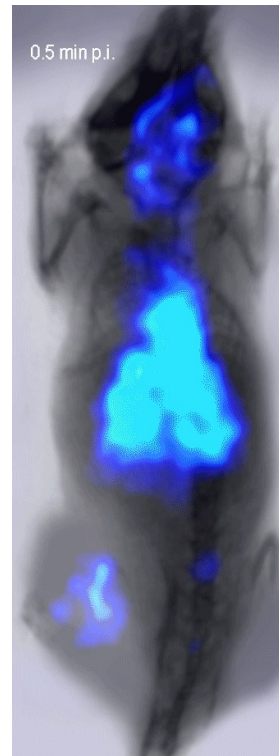
ISOTOPES

Isotope
F-18
In-111
Ga-67
Lu-177
Ge-68/Ga-68
Zr-89
Mo99/Tc99m
Pb-203
Pb-212
Ac-225
Cu-67
Cu-64
Tb-161



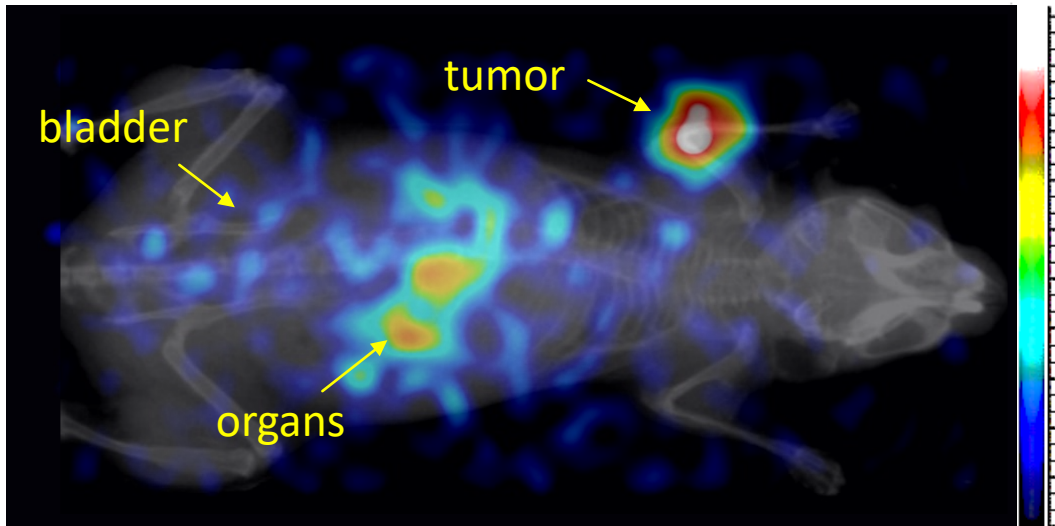
IMAGING *IN VIVO*

- CT (X-Cube™, Molecubes)
- SPECT (γ-Cube™, Molecubes)
- PET (β-eye™- tomo, BIOEMTECH)
- Optical (φ-eye™, BIOEMTECH)
- Planar *live* dynamic SPECT (γ-eye™, BIOEMTECH)
- Planar *live* dynamic PET (β-eye™, BIOEMTECH)
- **Fast screening protocols** (screening of multiple compounds with 5' scans each – up to **60 scans per day**)



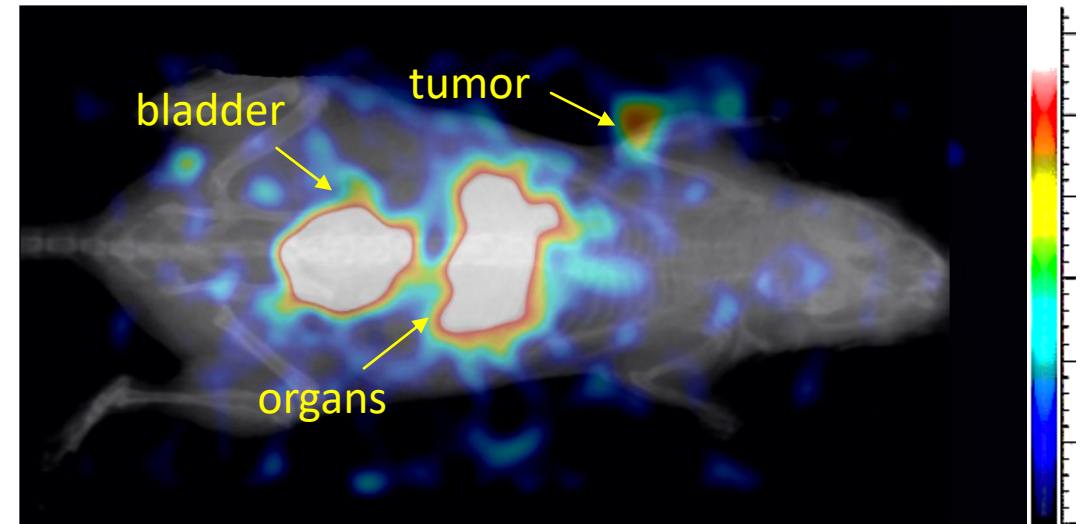
IN VIVO IMAGING OF ALPHA EMITTING THERAPEUTIC ISOTOPES

 **gamma eye™**



*Tumor model imaged with **Pb-212** radiopharmaceutical. Imaged for 10 min. Total injected dose 18 uCi.*

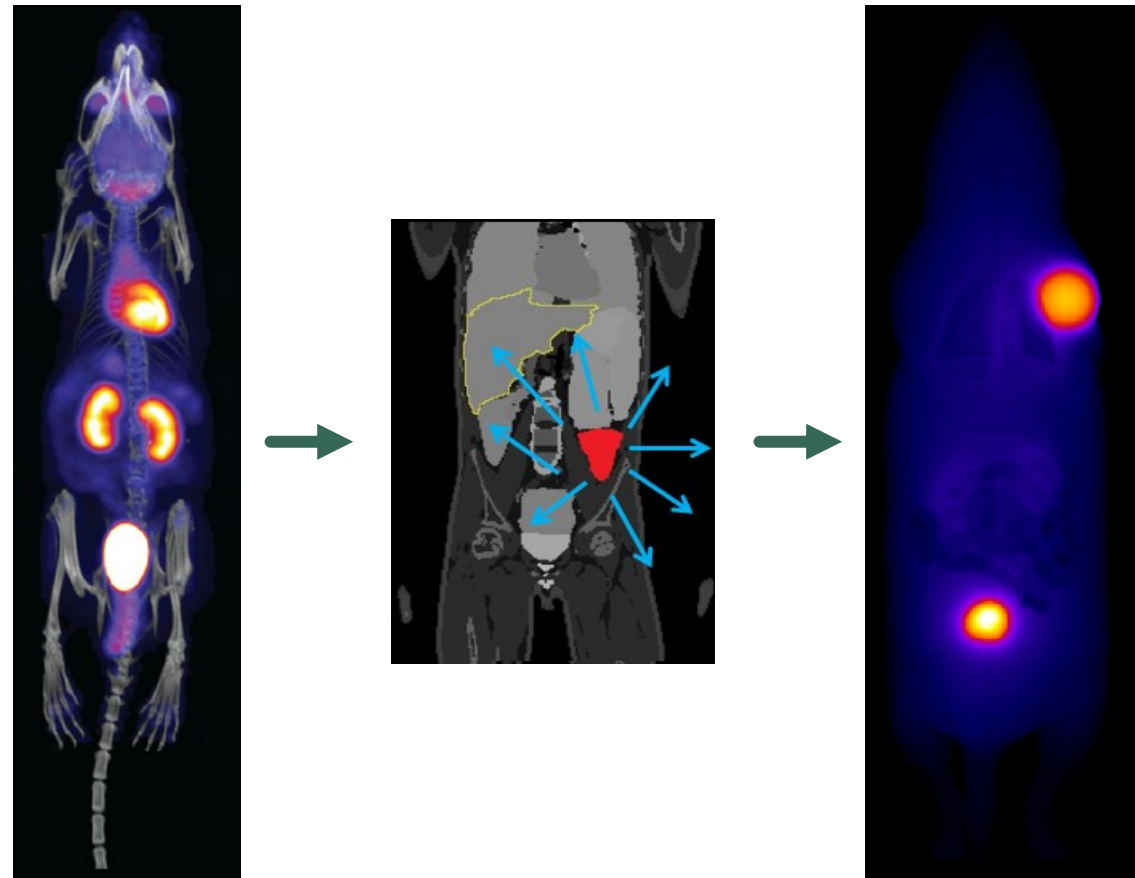
 **gamma eye™**



*Tumor model imaged with **Ac-225** radiopharmaceutical. Imaged for 10 min. Total injected dose 3.5 uCi.*

DOSIMETRY IN PRECLINICAL RESEARCH

Data extracted from *ex vivo* biodistributions or/and *in vivo* imaging are then used to extract **time activity curves** and **dosimetry evaluation** of novel compounds, in the form of graphs or dosimetry maps.



CLINICAL CHEMISTRY TESTS

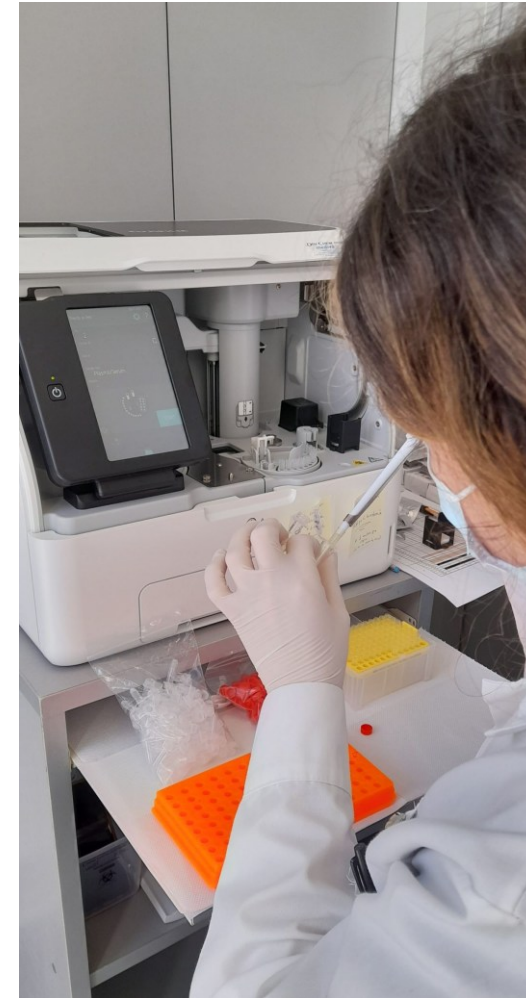
Automated Hematology Analyzer

- Parameters: WBC, LY%, MO%, GR%, LY, MO, GR, RBC, HGB, HCT, MCV, MCH, MCHC, RDW-CV, RDW-SD, PLT, PCT, MPV, PDW

Biochemical veterinary analyst

- Parameters: ALP, AMYL, CKMB, CPK, GGT, GOT/AST, GPT/ALT, LAP, LDH, LIP, ALB, BUN, Ca, CRE, DBIL, GLU, HDL-C, IP, Mg, NH₃, TBIL, TCHO, TCO₂, TG, TP, UA, Na, K, Cl, CRP

Tests on radioactive samples included



GLP TOXICOLOGY ASSAYS (MICE & RATS)



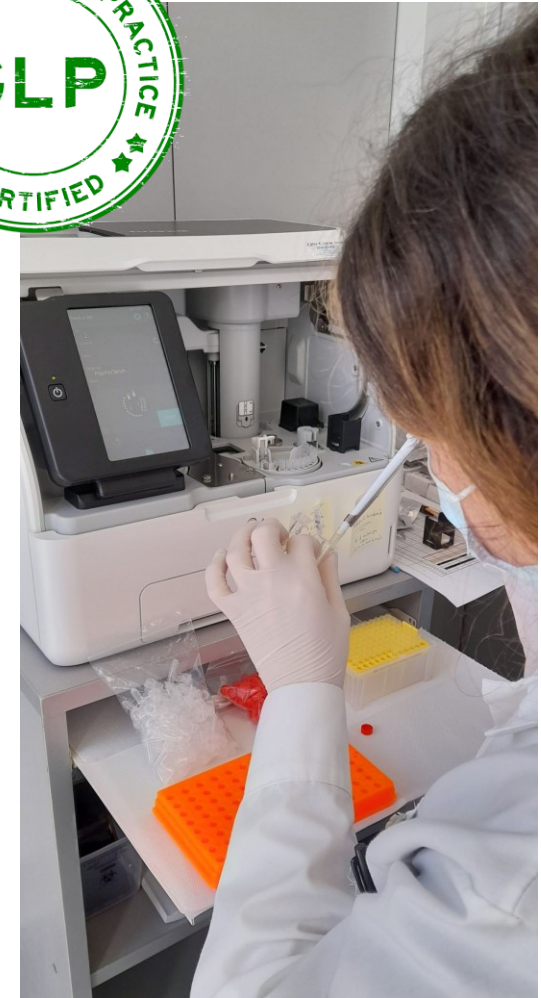
- **Acute toxicity study with single dose administration**

Daily monitoring of morbidity, mortality and behaviour, x3 weekly for body weight and once weekly for food intake. Total monitoring time 14 days (including weekends). At the end, blood collected for hematological and biochemical evaluation.

- **Subacute toxicity study with daily treatment**

Daily therapy (including weekends) for 28 days. Daily monitoring of morbidity, mortality and behaviour, monitoring x3 times for body weight and once weekly for food intake. At the end, blood will be collected for hematological and biochemical evaluation.

- Option to have organs harvested and sectioned, stained with hematoxylin and eosin (H&E), and examined blind by the veterinary pathologist (R.E.) – GLP part, outsourced
- Option for motor activity test, ladder test (coordination) & motor reflex – non-GLP part, outsourced



3RS COMPLIANCE IN ALL ASPECTS

■ Reduction

Our imaging systems provide for *in vivo* imaging, meaning that the same mouse is used for multiple time points and thus only a fraction of mice are used, in comparison to *ex vivo* research techniques. In our CRO activities too, imaging plays a vital role in experiments.

■ Replacement

AI tools are implemented within our imaging systems software, to allow automated images of x-rays to be generated, leading to replacement of extra animals in studies.

■ Refinement

Our imaging systems are designed with the constant support of veterinarians, to refine all aspects of animal use, during an imaging scan. In our Laboratories, highly experienced personnel takes part in animal experiments, always under the supervision of veterinarians.



40+ INSTALLATIONS OF OUR IMAGING SYSTEMS



25+ CRO CLIENTS AROUND THE WORLD



PARTICIPATION IN RESEARCH PROJECTS

<u>Vivomag:</u>	H2020-MSCA-RISE	Completed	9 H2020 (European)
<u>ERROR:</u>	H2020-MSCA-RISE	Completed (EU Innovation Radar)	
<u>CUPIDO:</u>	H2020-NMBP	Completed	
<u>nTRACK:</u>	H2020-NMBP	Completed	
<u>POLYTHEA:</u>	H2020-MSCA-ITN	Completed	
<u>B2B:</u>	H2020-FETOPEN	Completed	
<u>UNAT:</u>	H2020-MSCA-RISE	In progress	
<u>PHENOMENO:</u>	H2020-MSCA-RISE	Completed	4 NSRF (National)
<u>PEPSA-MATE:</u>	H2020-MSCA-RISE	Completed	
<u>NAVIGATE:</u>	NSRF-EDK	Completed	
<u>BreastCaRANKL:</u>	NSRF-EDK	Completed	
<u>SEPIA:</u>	NSRF-EDK	Completed	4 ERANETs (European)
<u>EYES:</u>	H2020 Seal of Excellence	In progress (Seal of Excellence)	
<u>RuNNINg:</u>	EuroNanoMed	Completed	
<u>POPEYE:</u>	ERAPerMed	Completed	
<u>THERAGET:</u>	EuroNanoMed	Completed	1 FF4EuroHPC (European)
<u>INFORM:</u>	ChistEra	In progress (Coordination)	
<u>PediDose:</u>	FF4EuroHPC	Completed (Coordination – Success Story)	

WOULD LOVE TO DISCUSS
MORE

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