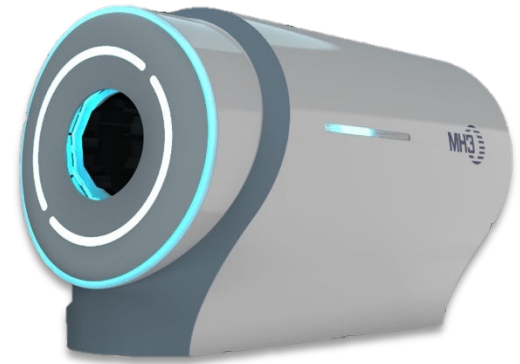


MH3D Alpha-SPECT mini

SPECT

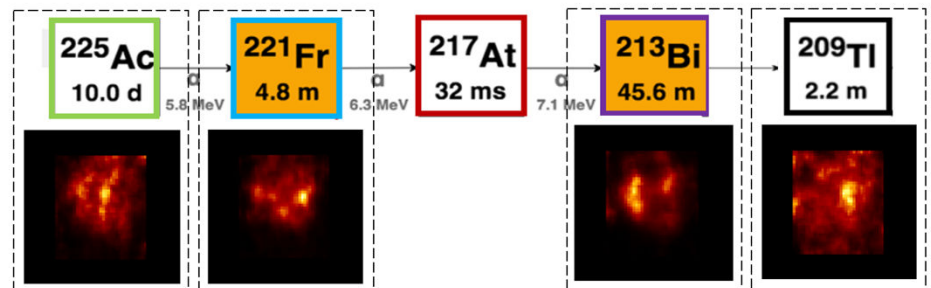
The Alpha-SPECT mini is a high-performance SPECT imaging system for preclinical research (mice and rats).

It features high performance CZT sensors providing an unparalleled energy resolution.



Applications

- Theranostics
- Spectral Imaging
- Oncology
- Neurology
- Cardiology
- Drug Development
- Dynamic Imaging
- Metabolic and Bond Diseases



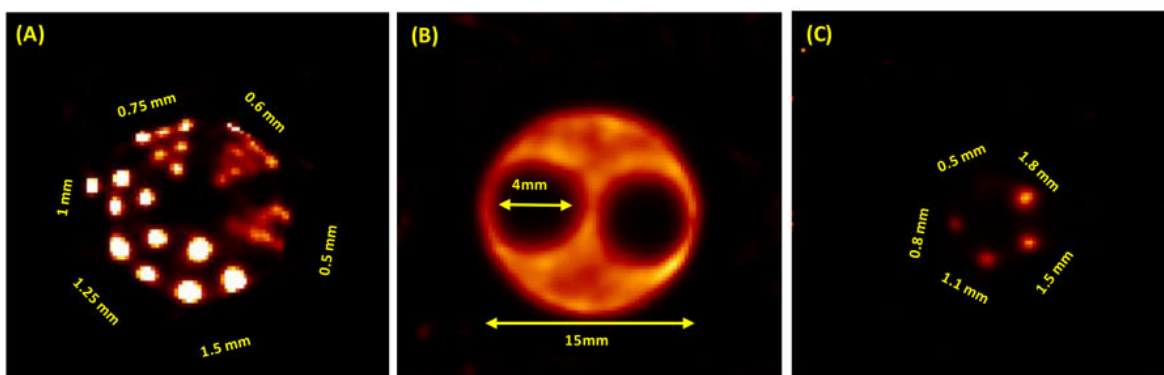
Distribution in Tumor

Product Highlights

- Unparalleled **energy resolution** (e.g., 2.5 keV at 140 keV), ideally suited for multi-isotope imaging
- **Ultra-wide stationary FOV** (6cm x up to 12 cm) for TRUE whole-body dynamic mouse and rat studies
- Fully **stationary multi-animal** (4 mice) imaging capability for high throughput
- Unique aperture design leading to **ultra-high spatial resolution** (0.25mm)
- Compact, **high-performance CZT sensors**
- **Modular design** and customer-selectable imaging configuration of \varnothing 6 cm x 6 cm, or 6 cm x 12 cm
- **User-programmable dual-FOV** aperture for adaptive whole-body/microscopic imaging

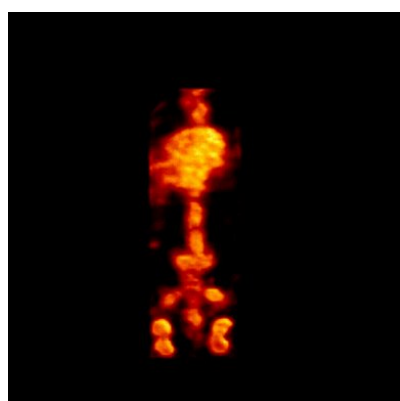
	Center FOV	Spatial resolution (mm)	Sensitivity (cps/MBq)	Energy Resolution @140 keV	Bore size
Hi-Res, Mouse	D 30 mm × L 40 mm	STD: 0.5 HR: 0.35	STD: 2500 (0.25%) HR: 1500 (0.15%)	STD: 2.5 keV, CZT (UHER: 1.5keV, CdTe)	12 cm
Large-FOV, Rat	D 60 mm × L 90 mm	1.5	5000 (0.5%)	2.5 keV	12 cm

Phantom Images



Tc-99m IQ phantom images

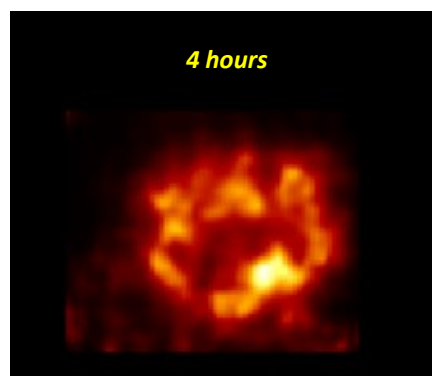
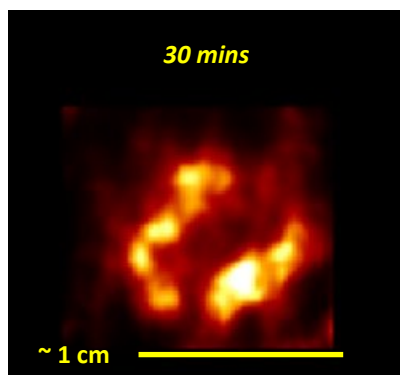
Preliminary Mouse



Experiment 1:

Unbonded Ac-225, 1.5 μ Ci

- Alpha-SPECT-mini with dedicated high-E collimator
- *In vivo* Imaging of Ac-225 in mouse
- E-window: ~80 keV, (Pb-209, Fr-221, Tl-209, etc.)
- Unbonded Ac-225, 1.5 μ Ci total
- Imaging time: 30 mins
- Most of the Ac-225 and daughters appears to go to the bone and kidney

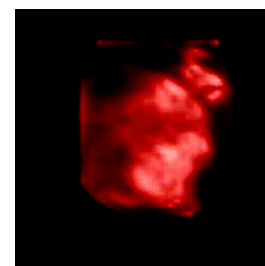
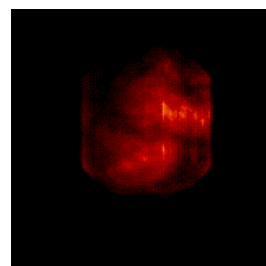
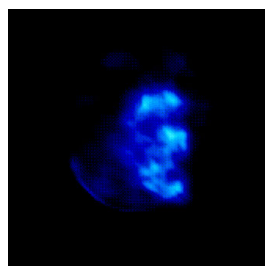
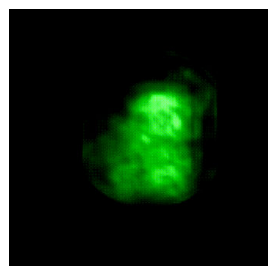
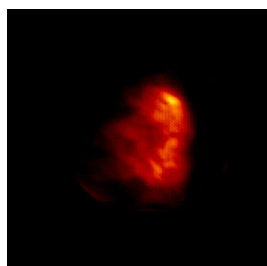


Experiment 2:

Ac-225-labelled antibody in tumor

- Distribution of Ac-225-labeled antibody in tumor
- Energy window: 5 keV around 218 keV (Fr-221)

Experiment 3: Ac-225-labelled antibody in tumor



79.3keV, overall

100keV, Ac-225

218keV, Fr-221

117keV, Tl-209

440keV, Bi-213

Experimental conditions are identical to the experiment 2