PERSPECTIVE THERAPEUTICS

Corporate Presentation

April 2024

NYSE: CATX

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Investment Highlights

Platform radiopharmaceutical company targeting **pan-cancer opportunities** utilizing 2nd generation α-emitter

Proprietary chelator-based peptide targeting platform provides engine for pipeline expansion

Robust clinical pipeline with three clinical-stage programs. VMT-α-NET for neuroendocrine tumors; VMT01 for melanoma; PSV359 for multiple solid tumors

Theranostic ^{203}Pb – ^{212}Pb dual isotope enables imaging and therapy, improving patient selection and outcomes

Multiple expected **near-term readouts and milestones** through to 2025

Vertically integrated in-house manufacturing of ^{212}Pb isotope simplifies manufacturing and can leverage existing radiopharmacy logistics for broad distribution

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Platform Expansion Engine

Three Lead Programs in Clinic and Broad Proprietary Pipeline

Program	Indication	Discovery	Human Clinical Imaging	First in Human Therapy	Phase 1/2	Phase 3
VMT-α-NET	Neuroendocrine cancers					
	Pheochromocytomas, paragangliomas					
	Small cell lung cancer					
VMT01/02	Melanoma (MC1R imaging & therapy)					
PSV359 *(Novel peptide)*	Multiple solid tumors					
PSV40X *(Radio-hybrid)*	Prostate (PSMA imaging & therapy)					
Program 5 *(Novel peptide)*	Prostate, Breast					
Pre-targeting Platform *(mAbs)*	Solid and hematological tumors					
Other Programs *(Novel peptides)*	Solid and hematological tumors					

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Pipeline With Multiple Expected Near-Term Data Readouts

Pipeline

Program	Indication	Phase	4Q23A	1Q24A	2Q24E	3Q24E	4Q24E	1Q25E	2Q25E	3Q25E
VMT-α-NET	Neuroendocrine Tumors	Phase 1/2a	Enrollment in Phase 1/2a dose escalation study ongoing							
				Phase 1 Dose Escalation in NETs preliminary readout					Dose Expansion Cohort in NETs preliminary readout	
				Therapy results 10 pts: compassionate use						
VMT01/VMT02	Metastatic Melanoma	Phase 1/2a	Enrollment in Phase 1/2a dose escalation study ongoing							
				Phase 1 Dose Escalation in Melanoma preliminary readout						
									ICI Combo Expansion in Melanoma preliminary readout	
Various Developmental Programs	Multiple Solid Tumors	Pre-Clinical		Pipeline Expansion with Imaging Data				IND – solid tumors		
	Prostate Cancer					Pipeline Expansion with Imaging Data			Preliminary Therapy – solid tumors	
	Breast Cancer							Pipeline Expansion with Imaging Data		
	Lung Cancer									

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Management Team

Deep Experience in Radiopharmaceuticals and Oncology Drug Development

Thijs Spoor

Chief Executive Officer

20+ years of expertise in biotechnology companies; public and private companies; oncology and nuclear pharmacy

Markus Puhlmann, MD MBA

Chief Medical Officer

20+ years of oncology drug development across all phases, experience coordinating multiple regulatory filings

Michael Schultz, PHD

Chief Science Officer

20+ years industry and research experience in radiopharmaceuticals; co-founder Viewpoint MT & inventor of Perspective products

Jonathan Hunt

Chief Financial Officer

20+ years of expertise in financial controls and public accounting for large and small companies across multiple industries

Frances Johnson, MD

Chief Innovation Officer

20+ years in clinical trials execution, managing academic research programs, founder and start-up of CareDx, Inc and Viewpoint MT

Amos Hedt

Chief Business Strategy Officer

20+ years of expertise in early-stage pharmaceutical and biotech drug development; 10+ years in radiopharmaceuticals

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Radiopharmaceuticals are a Pillar of Oncology Treatment

Unique Mechanism of Action Offers Pan-Cancer Opportunities

Molecularly Targeted Radiation	Radioligands can precisely deliver radiation directly to cancer cells reducing off-target effects Proven pillar of cancer treatment **Perspective's platform technology is optimized for greater efficacy and fewer side effects**
Optimized Patient Selection	Molecular imaging companion diagnostics enable visualization of the therapeutic target Enables the selection of patients who may best respond to therapy **Perspective's elementally matched isotopes are paired for imaging and therapy**
Monotherapy Activity and Combination Synergies	Ability for both monotherapy and combination treatments Potential synergies with DNA damage response and immune checkpoint inhibitors **Perspective's targeted alpha therapy delivers potent and immunostimulatory radiation to tumor**
Outpatient Friendly	Modern medical isotopes enable radiopharmaceuticals to be administered outside of hospitals Treatments are easily-accessible globally with several hundred therapeutic locations in the U.S alone **Perspective's short half-life isotopes simplify patient administration and waste management**
Unique Business Opportunity	Radiopharmaceutical theranostic product development is highly-specialized and technical Greater expertise needed than for standard medicines potentially creating higher barriers to entry **Perspective develops patent-protected best-in-class intellectual property**

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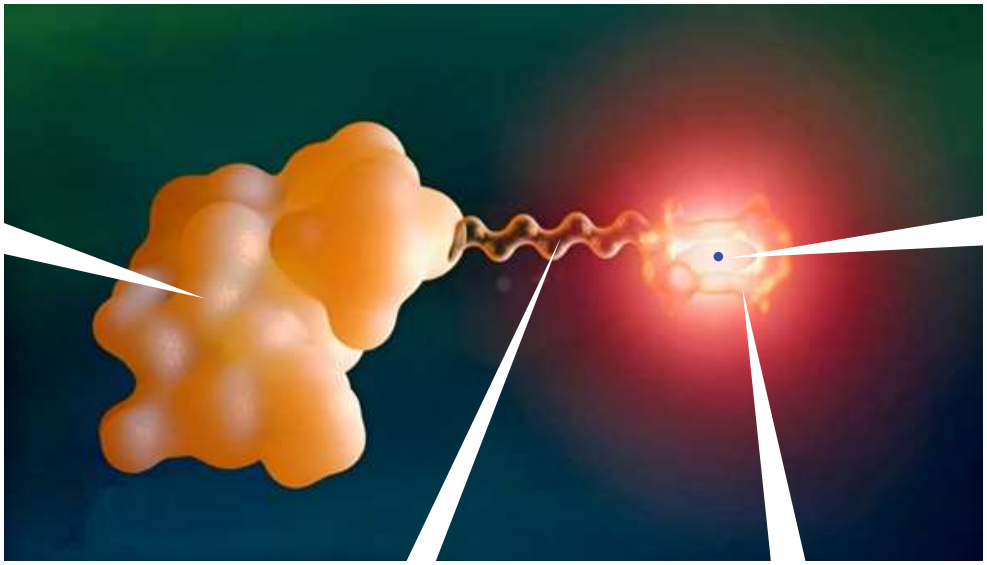
Perspective's Radiopharmaceutical Optimization Process

Unique Mechanism of Action Offers Pan-Cancer Opportunities

Targeting Peptide

Engineered for cancer-specific receptors to ensure highly directed uptake



Isotope

^{203}Pb for SPECT imaging

or

^{212}Pb for alpha particle therapy

Linker

Selected to assist peptide binding and optimize clearance from blood and healthy tissues

Chelator

Perspective's proprietary platform technology enabling stable radiolabeling with Pb isotopes

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Lead-212 (^{212}Pb): The Optimal Therapeutic Isotope

Alpha Particles Provide Numerous Benefits Over Currently Used Beta Particle Radiotherapies

- With a much higher atomic mass, **alpha (α)** particles generate more energy and travel a shorter distance compared to beta (β) particles, making them more cytotoxic, while reducing their off-targeting effects on healthy tissue
- Alpha radiation causes direct lethal double-stranded DNA breaks, vs indirect single-stranded breaks in beta (β) radiation
- Cell death expected – NO resistance
- Greater therapeutic efficacy expected to improve outcomes with better safety

	Lead (^{212}Pb)	Iodine (^{131}I)	Lutetium (^{177}Lu)	Actinium (^{225}Ac)	Implication[1]
Emission Profile	Alpha	Beta	Beta	Alpha	Potent
Half Life	0.46 days	8 days	6.7 days	10 days	High dose-rate
Off Target Toxicity Risk	Low	Very high	Low	High	Best
Supply	High	High	Low	Low	Abundant
Cost of Production	Low	Low	High	High	High margin

[1]Company estimates and assumptions based on current literature and known physical constants

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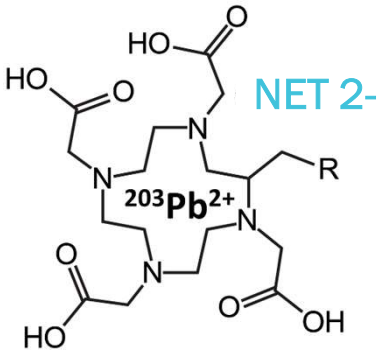
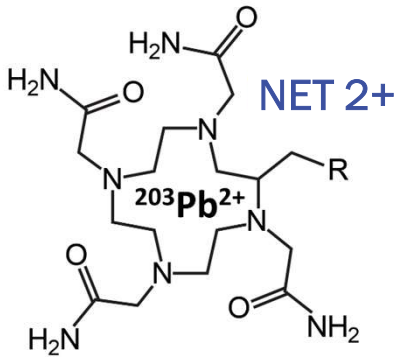
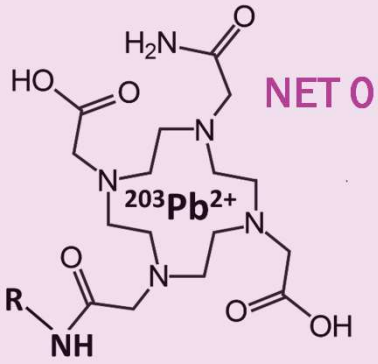
Chelator Optimized for $^{212/203}$Pb

Perspective's Enabling Technology for Pb-based Radiopharmaceuticals

DOTA	TCMC	PSC[1]
		
NET 2-	NET 2+	NET 0
Commercially Available		Perspective's Chelator

Perspective's Proprietary Chelator:

- Designed specifically for Pb isotopes
- Optimized for rapid renal clearance through neutralized formal charge
- Improves radiolabeling, receptor binding & internalization
- Generic chelators leak the ^{212}Bi alpha-emitting daughter up to 36%[2]

Generic chelators have not been optimized for Pb isotopes, potentially compromising safety, efficacy and manufacturing efficiency

[1]"Pb-Specific Chelator"; [2]Mirzadeh et al., Radiochimica Acta, 1993

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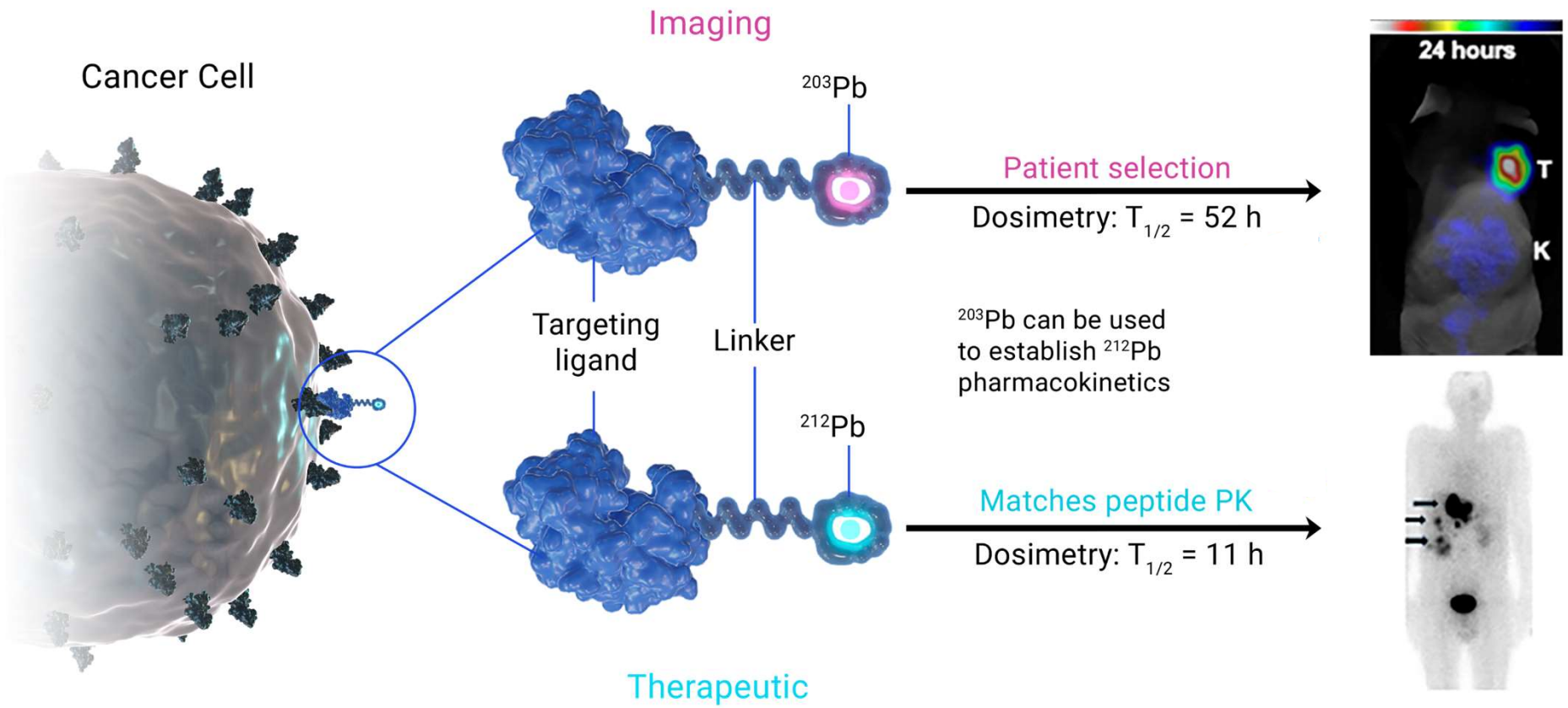
Pb-based Theranostics Enable Both Diagnosis and Targeted Treatment of Cancer

Identical Distribution of ^{203}Pb and ^{212}Pb for Imaging and Treatment, Respectively



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Neuroendocrine Tumors: VMT-α-NET

Targeting the somatostatin receptor to treat rare neuroendocrine-type cancers

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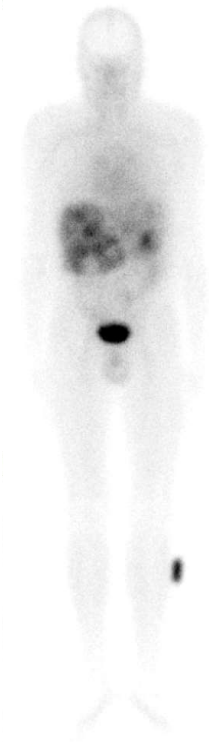
VMT-α-NET Development Status



Targeting somatostatin receptor type 2 (SSTR2) for the imaging and treatment of neuroendocrine tumors with possible expansion into other SSTR2+ tumor types

Initiated therapy (2022) under compassionate use in India – complete data of 12 patients to be presented at SNMMI in June 2024

Fast Track Designation for first line therapy received October 2022

Therapeutic trial in first line setting currently recruiting at 7 sites in the US

US Phase 1 study in PRRT refractory patients recruiting at the University of Iowa

VMT-α-NET will potentially expand into this population as well as first line

Image Panel: SPECT scan of NETs patient imaged with [^{203}Pb]VMT-α-NET

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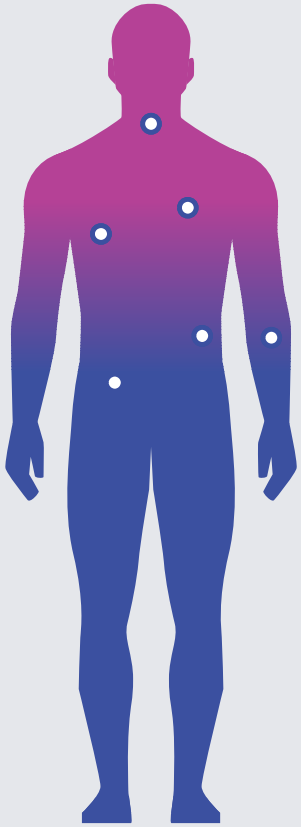

SSTR2 is an Attractive Target for Identifying and Treating Tumors

Expressed Across Several Tumor Types

Neuroendocrine tumors (NETs)

- Neuroendocrine cells are specialized cells that secrete hormones and other bioactive substances
- Neuroendocrine cells are found throughout the body
- Often grow in the pancreas or other areas of the gut, such as the stomach, small intestine, rectum, colon or appendix

SSTR2 is expressed widely in various tumors

- Meningioma
- Pituitary adenomas
- Nasopharyngeal carcinoma
- Thyroid cancer
- Breast cancer
- Small cell lung cancers
- Merkel cell carcinoma
- Melanoma

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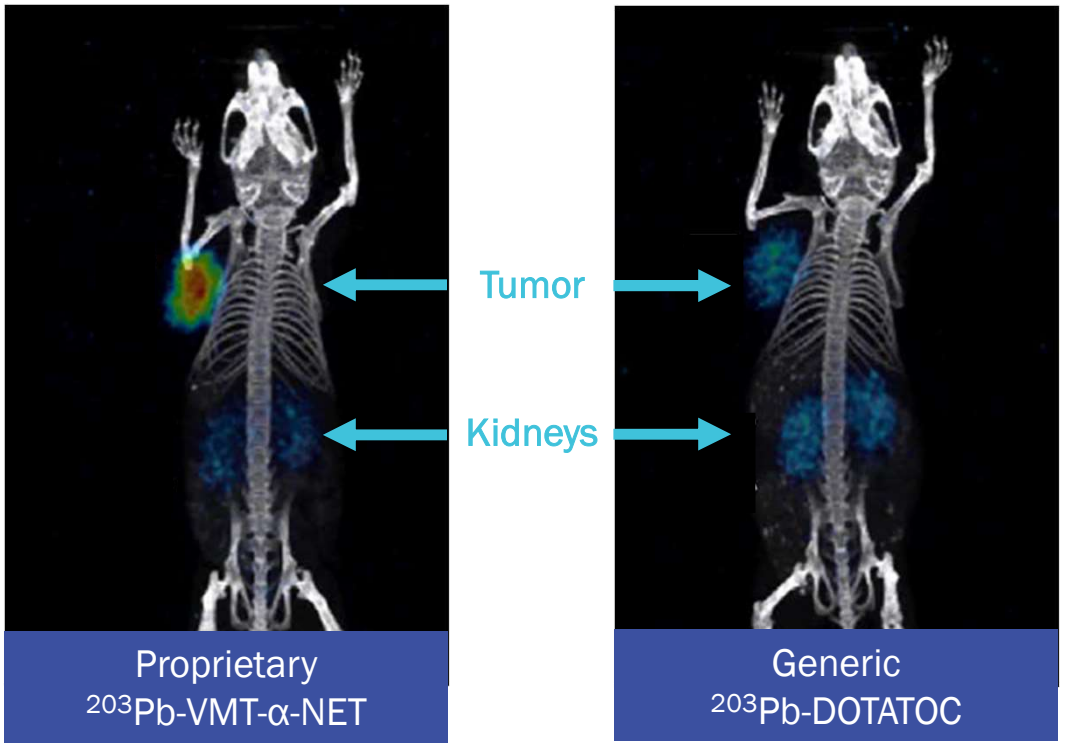
Superiority of Perspective's Platform Technology vs Generic Compounds

Decreased Off-Target Toxicity, Increased Tumor Uptake and Retention in Preclinical Studies

Key Takeaways

SSTR2 tumor model demonstrates superiority of VMT-α-NET to generic compounds

8-fold improved tumor uptake with decreased kidney retention



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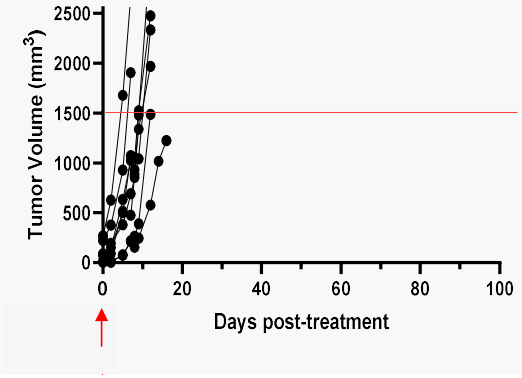
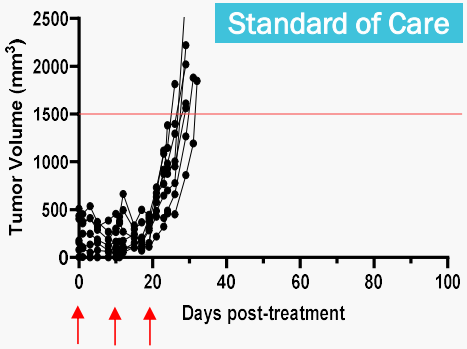
VMT-α-NET Shows Significant Improvement vs Standard of Care in Preclinical Models

Superior Efficacy with Single Dose or Multiple Administrations in AR42J SSTR2-Expressing Tumor

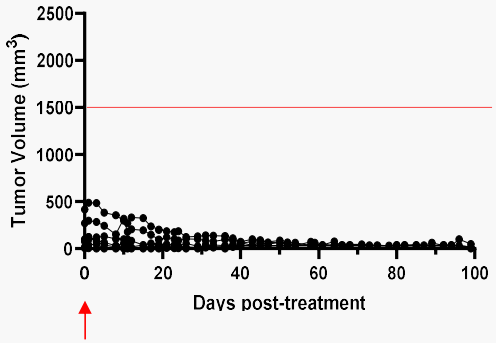
Vehicle



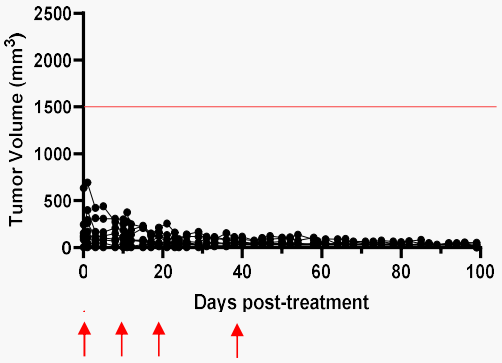
[^{177}Lu]DOTATATE (3 x 500 µCi)



[^{212}Pb]VMT-α-NET (1 x 120 µCi)



[^{212}Pb]VMT-α-NET (4 x 30 µCi)



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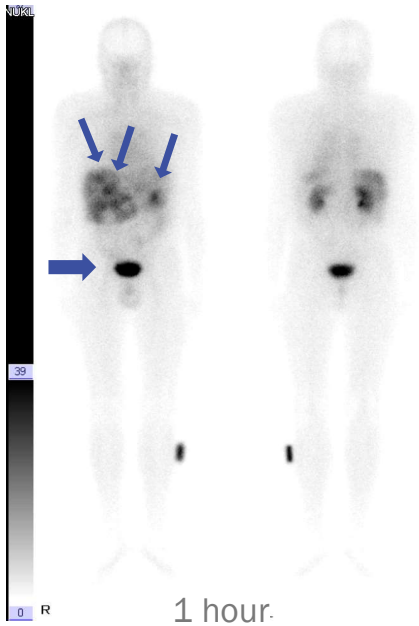
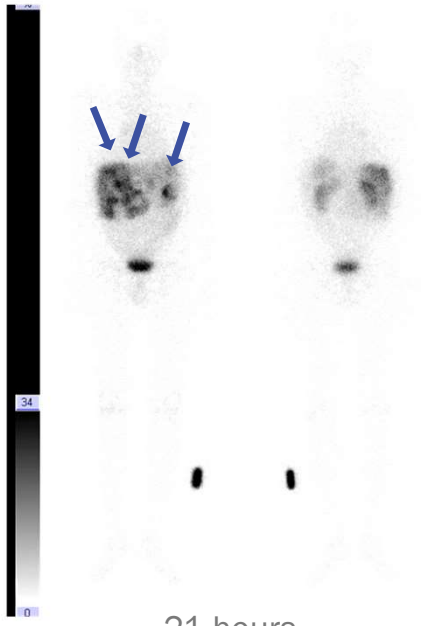
^{203}Pb SPECT Imaging Reveals Favorable VMT-α-NET Properties[1]

Rapid Tumor Targeting and Renal Clearance



1 hour

High Tumor Retention



21 hours

- Tumors visible within 1 hour indicates rapid binding to SSTR2 target
- High intensity above background implies excellent therapeutic window
- Unbound drug in bladder within 1 hour for excretion
- Low renal retention due to neutral charge on proprietary Pb-specific chelator

[1]Muller et al., Clin. Nucl. Med. 2023

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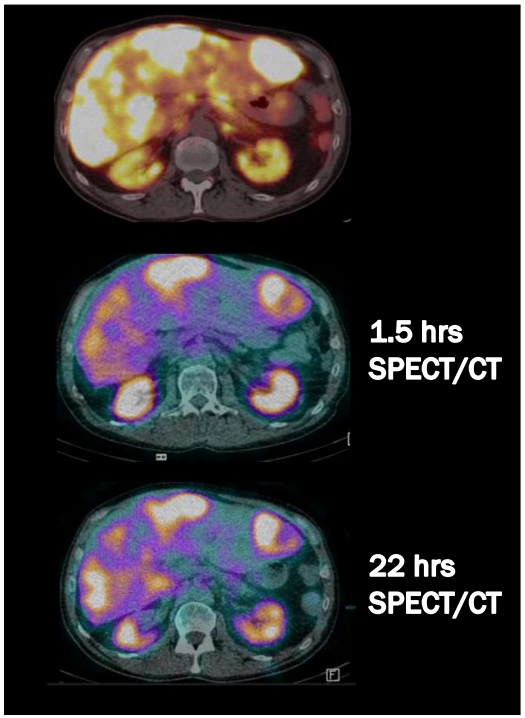
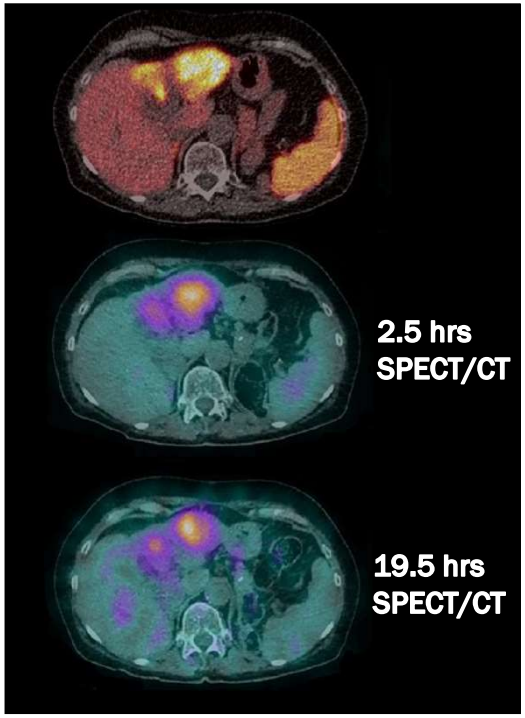
^{212}Pb SPECT/CT Imaging Confirms VMT-α-NET Tumor Uptake

Diagnostic and Therapeutic Show Same Uptake and Retention Characteristics

^{203}Pb SPECT/CT Imaging[1]
Pt#001



^{212}Pb SPECT/CT Imaging[2]
Pt#009



- Both ^{203}Pb and ^{212}Pb can be imaged directly using SPECT
- SPECT/CT shows very rapid tumor uptake and retention of [^{212}Pb]VMT-α-NET
- After 24 hours more than 80% of alpha particles will be generated
- This high alpha dose rate is ideally matched to the biological clearance of the VMT-α-NET peptide

[1]Muller et al., Clin. Nucl. Med. 2023; [2]Michler et al., EJNMMI 2023

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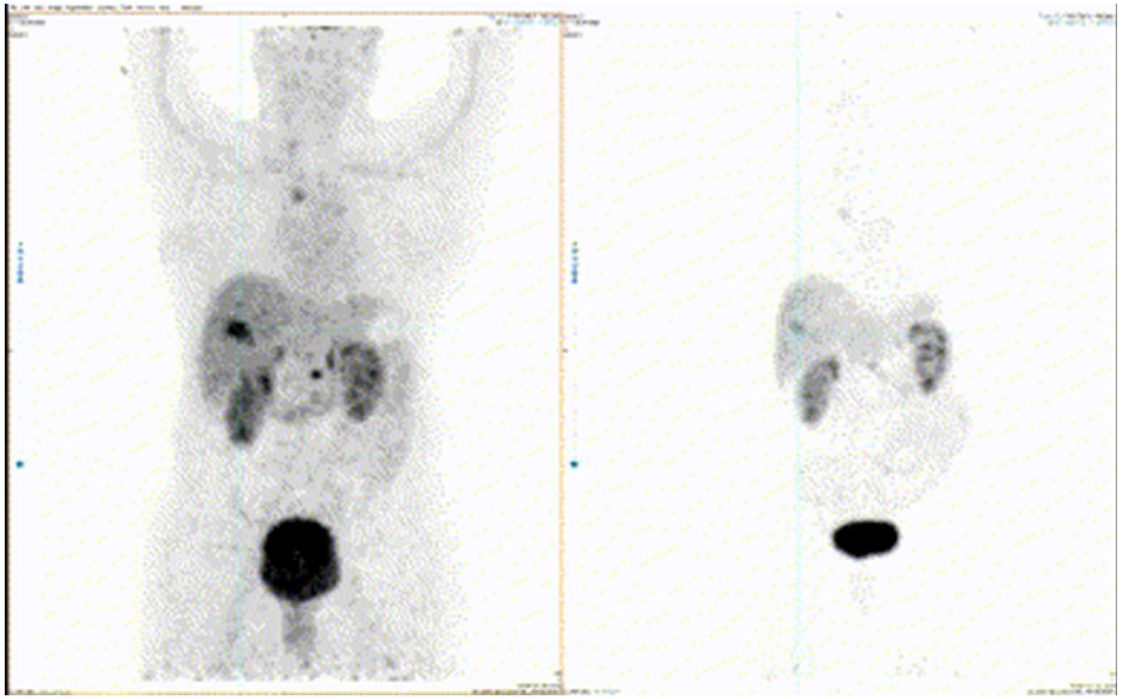
Significant Response After Single Dose of [^{212}Pb]VMT-α-NET

Metastatic NET Pancreas with Adrenal Crisis – Maximum Intensity Projection (MIP)

Tumor Before Treatment | Tumor After 1 Dose



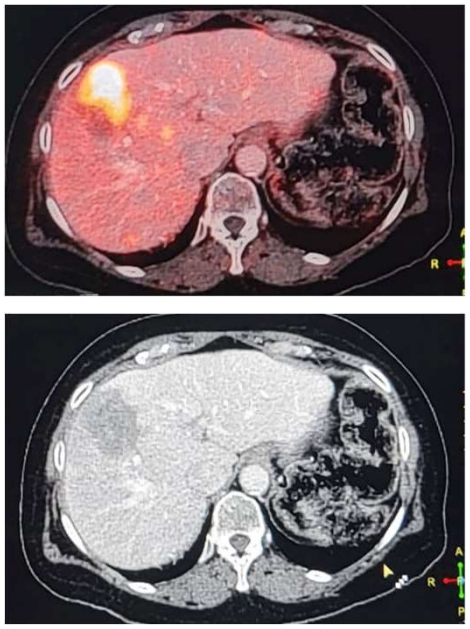
- ^{68}Ga-DOTA-NOC PET images at base line and post 1st dose of [^{212}Pb]VMT-α-NET
- MIP suggesting strong reduction of intensity (thoracic lesions) and decreasing tumor volume (Partial Response)

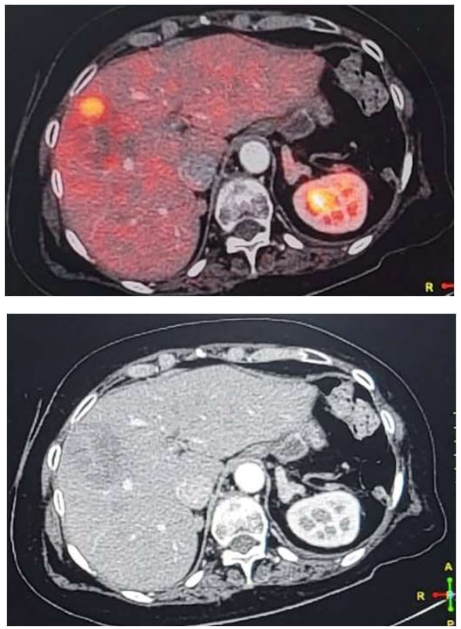
Fortis Memorial research institute (FMRI), Gurugram, India

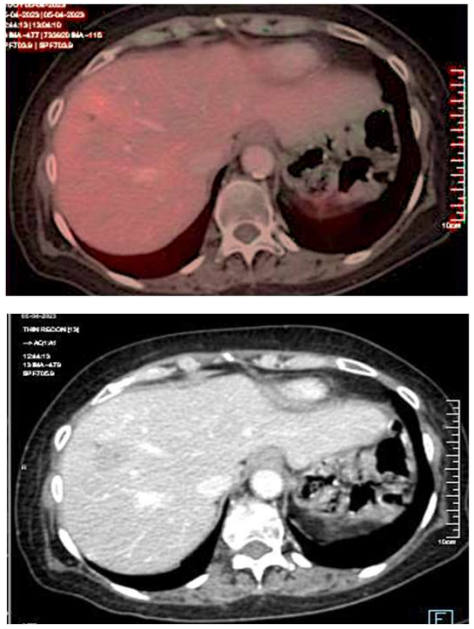
Significant Response After Single Dose, Almost Complete Response After 3 Doses

Metastatic NET Pancreas with Adrenal Crisis

Tumor Before Treatment	Tumor After 1 Dose	Tumor After 3 Doses







(S.ACTH)[1]– 790 pg/ml

S.ACTH – 96 pg/ml

[1] Serum Adrenocorticotropic Hormone

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Clinical Investigation of [^{212}Pb]VMT-α-NET in Metastatic SSTR2 Positive Patients

Interim Results as of September 28, 2023, for Ongoing Investigation in India

Treating Physician:
Dr. Ishita B Sen
Director & Head
Dept. of Nuclear Med.
& Molecular Imaging
Fortis Memorial Research
Institute, Gurgaon, India

Current Status

- Patients with prior lines of therapy, late-stage, anatomically different NETs (mean age: 48 years; 4 females)
- 10 patients administered [^{212}Pb]VMT-α-NET
- 7/10 patients continuing on therapy
- 1 patient completed 4x treatments
- 2 patients discontinued due to progressive disease
- 25 total [^{212}Pb] VMT-α-NET doses administered to date

Response

- Response (radiological or biochemical) is seen in 8/10 patients
- Death: 1/10 (not drug related)
- Awaiting Evaluation: 1
- Quality of Life (EORTC QLQ–GLNET21 Score) trending positively

Safety

- No significant renal or hepatic function derangement to date
- Mild Adverse Effects:
  - Grade I Anemias
  - Alopecia
  - Fatigue – usually up to 1 week after administration
- 2 SAEs (unrelated to study drug):
  - Acute Cardiac Event in 25-year-old pNET patient (heavily pretreated)
  - Myelodysplastic Syndrome (MDS) in 79-year-old Medullary Thyroid Carcinoma patient (found positive for BCR-ABL gene)

Dr Dharmender Malik, Fortis Memorial research institute (FMRI), Gurugram, India. Presented at EANM 2023 - Interim Results

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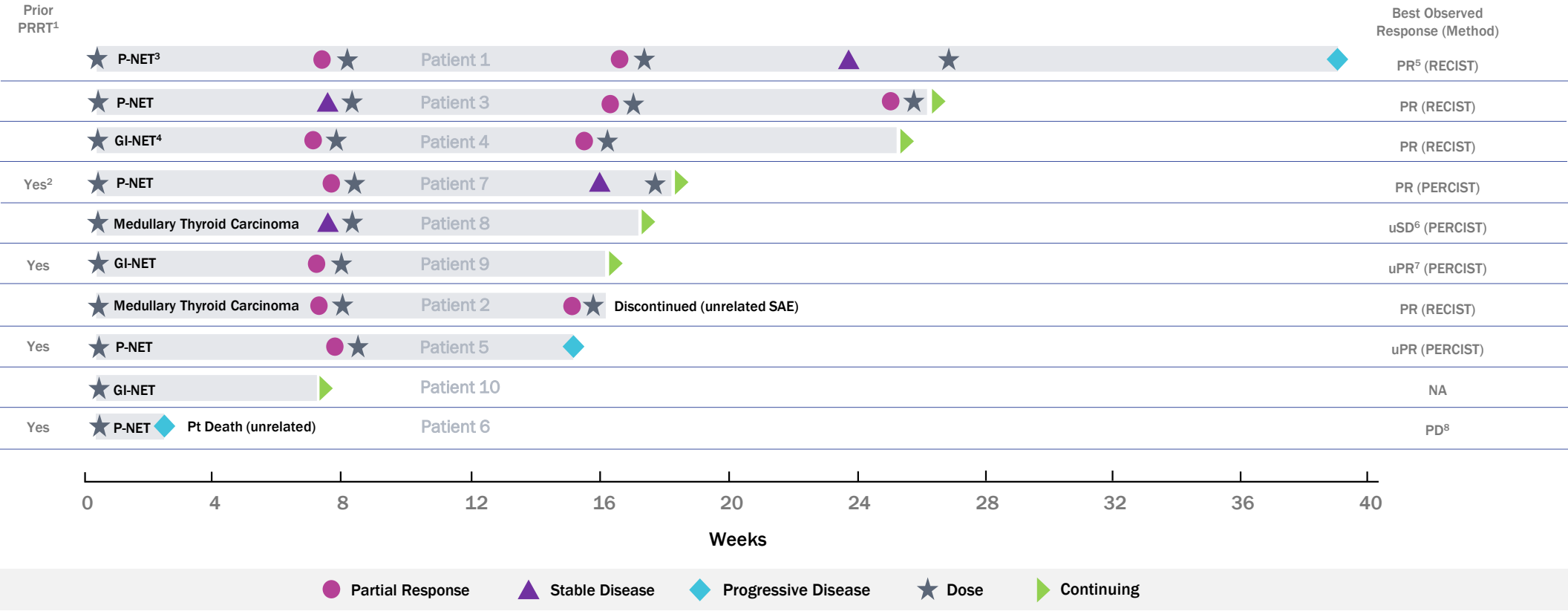
High Partial Response Rate at Starting Dose in Patients with SSTR+, Late-Stage NETs

Interim Results as of September 28, 2023, for Ongoing Clinical Investigation Program in India



[1] 4 x [^{177}Lu]DOTATATE
[2] 4 x [^{177}Lu]DOTATATE plus 3 x [^{225}Ac]DOTATATE
[3] Pancreatic NET
[4] Gastro-intestinal NET
[5] Partial Response
[6] unconfirmed Stable Disease
[7] unconfirmed Partial Response
[8] Progressive Disease

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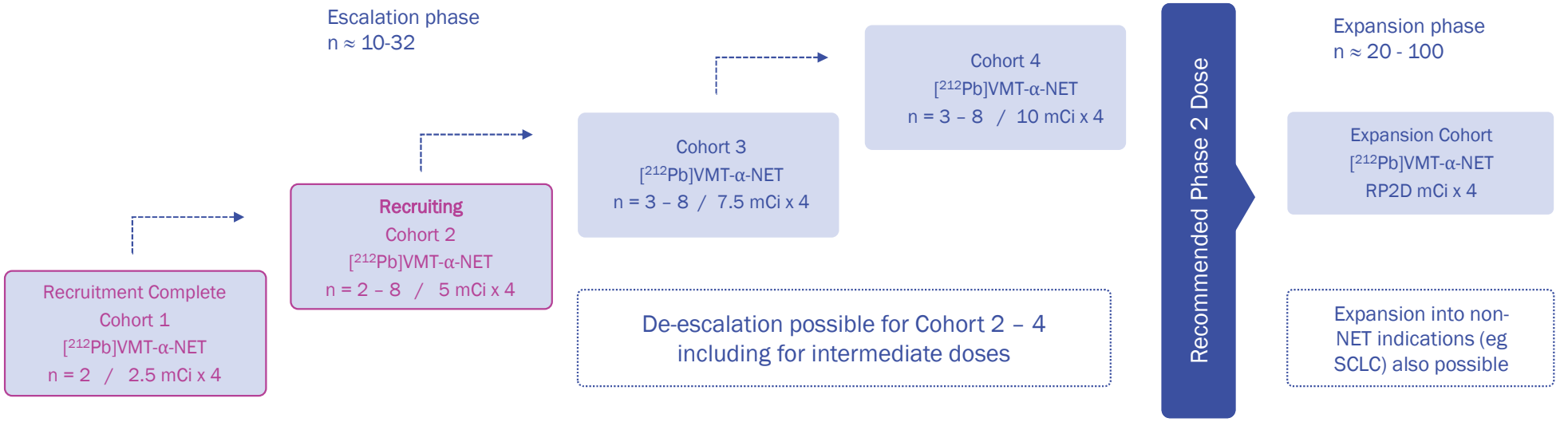
Trial Design: [^{212}Pb]VMT-α-NET mTPI-2[1] Phase 1/2a For Neuroendocrine Tumors

Primary Objective:	To determine the MTD/MFD of [^{212}Pb]VMT-α-NET (RP2D)	**Imaging:**	FDA approved SSTR2 PET/CT
Population:	Escalation n ≈ 10-32 Expansion n ≈ 20 – 100 Unresectable or metastatic SSTR2-positive NETs **PRRT naïve** *("First line")*	**Therapeutic Dose:**	2.5–10 mCi dose escalation with fixed dosing every 8 weeks for up to 4 cycles
		Estimated Time to Primary Completion:	~18 months
Design Methodology:	Bayesian mTPI2 based on iterative toxicity probability monitoring	**Dosimetry:**	To be assessed during screening for cohorts 1 & 2 using 5-7 mCi [^{203}Pb]VMT-α-NET



[1]mTPI-2: Modified toxicity probability index
https://clinicaltrials.gov/study/NCT05636618 *Note: average administered activity from Indian compassionate use study was 2.9 mCi per cycle*

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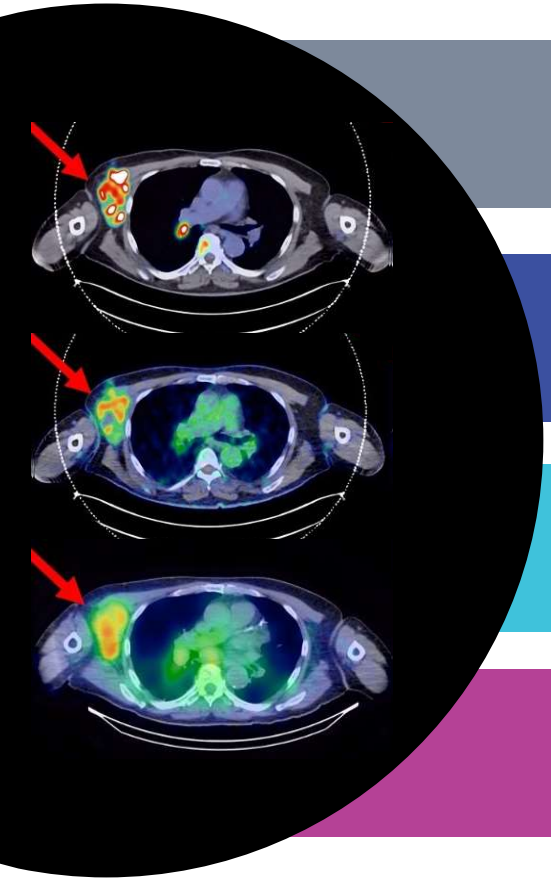
Melanoma Program: VMT01/02

Using the melanocortin receptor MC1R to target melanoma for imaging and therapy

VMT01 Development Status



Targeting melanocortin 1 receptor (MC1R) which is over-expressed in melanoma

US Therapeutic Dose Escalation Trial recruiting currently at 8 sites in US
Expected to Receive Orphan Drug Designation and Fast Track Application

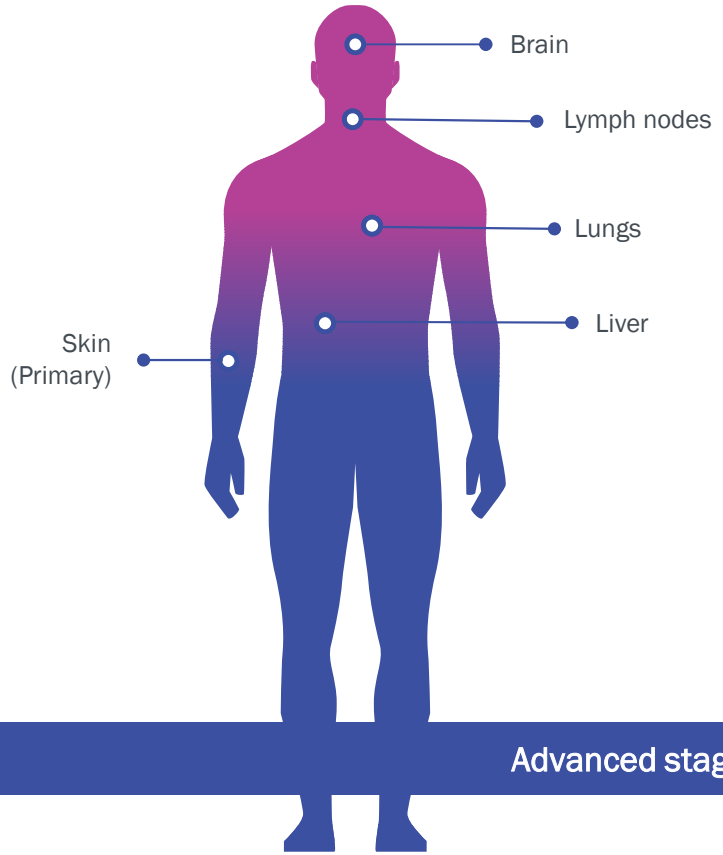
Preclinical data shows synergistic effect with Immune Checkpoint Inhibitors
Planning underway for VMT-α-NET /ICI combination in second line setting

Phase 1 imaging study at Mayo Clinic Rochester indicates feasibility of patient selection using [^{203}Pb]VMT-α-NET

Image: Top panel - PET/CT cross section of a metastatic melanoma patient using FDG;
middle panel - PET/CT of the same patient with VMT02; lower panel - SPECT/CT of same patient with VMT01

PERSPECTIVE THERAPEUTICS

Metastatic Melanoma



[^{212}Pb]VMT01 target indication:

MC1R-positive melanoma

- **Projected market opportunity for melanoma of $8 billion+ in 2028**[1]
- **Significant unmet need in the U.S.:**
  - **~100K** new diagnoses annually[2]
  - **~8,000** people die from melanoma every year[2]
- Treatment depends on the stage of tumor
- Approaches may include surgery, radiation, chemotherapy and immunotherapy
- 5-year survival rate for metastatic melanoma is only 22.5%[3]

Advanced stages of disease occurs throughout the body requiring aggressive systemic treatment

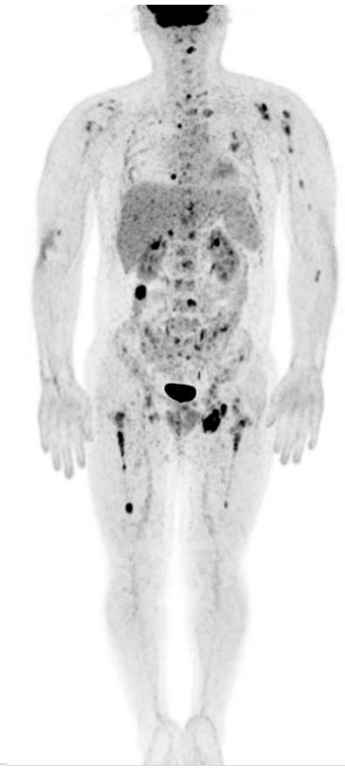
[1]https://www.marketdataforecast.com/market-reports/melanoma-therapeutics-market, [2]cancer.org, [3]curemelanoma.org

PERSPECTIVE THERAPEUTICS

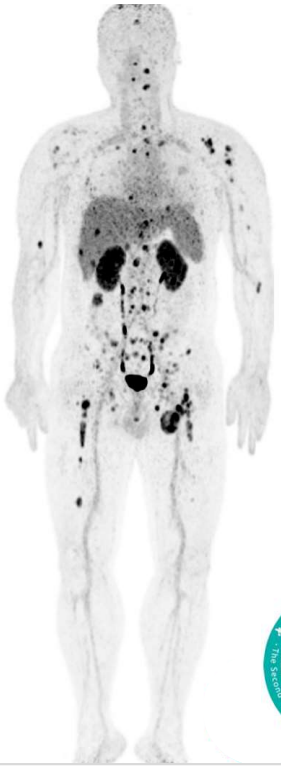
[^{68}Ga]VMT02 PET Imaging in Patient with MC1R Positive Metastatic Melanoma

Diagnostic Peptide Demonstrates Similar Uptake to FDG in Tumors

^{18}F-FDG (Standard of Care)



[^{68}Ga]VMT02



Patient information:

- Male, Asian, 33 years old
- [68Ga]VMT02: 7 mCi injection, 45 min post-injection imaging

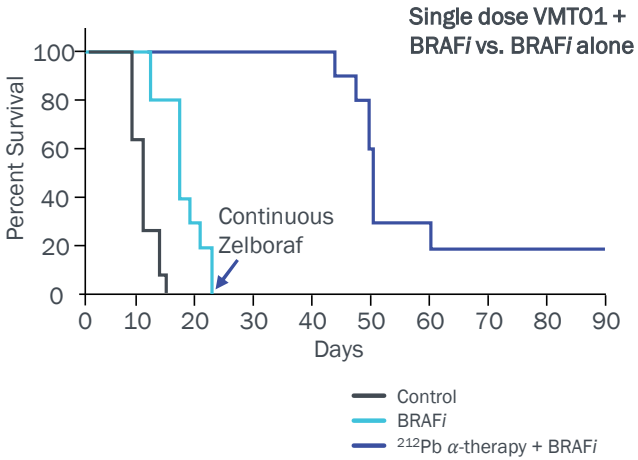
Clinical Collaborator:

Xiaowei Ma, M.D., Ph.D.
Assoc. Prof. & Director
Department of Nuclear Med.
The Second Xiangya Hospital
Central South University
China

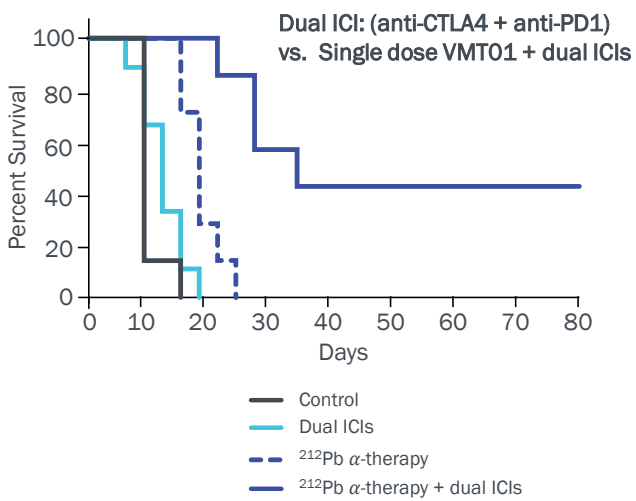
[^{212}Pb]VMT01 in Combination: Synergistic Responses in Preclinical Studies

Single dose of VMT01 in combination significantly arrested melanoma tumor growth and extended survival

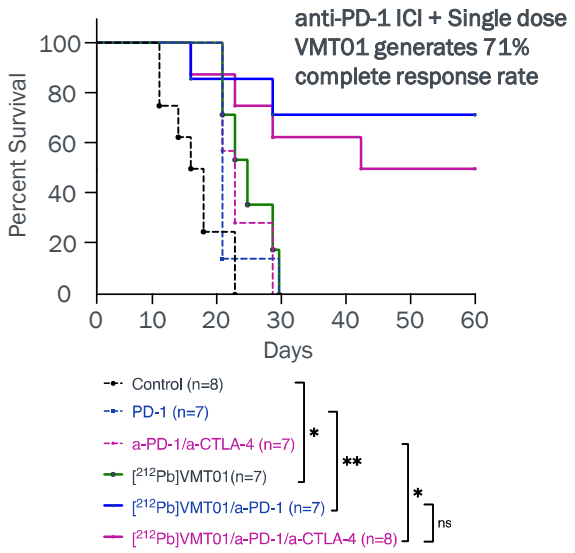
Immunodeficient human melanoma xenograft model – BRAF-positive[1]



Immunocompetent mouse B16:F10 melanoma model[2]



Immunocompetent mouse B16:F10 melanoma model[3]



Key Takeaways

- High response rates in multiple tested models
- >70% complete and durable response if combined with PD1 immunotherapy in a model highly resistant to checkpoint inhibitors[3]
- Combination with immune checkpoint inhibitors induced synergistic anti-tumor effect

Clinical Collaboration Agreement with Bristol-Myers Squibb signed for OPDIVO® (nivolumab) supply

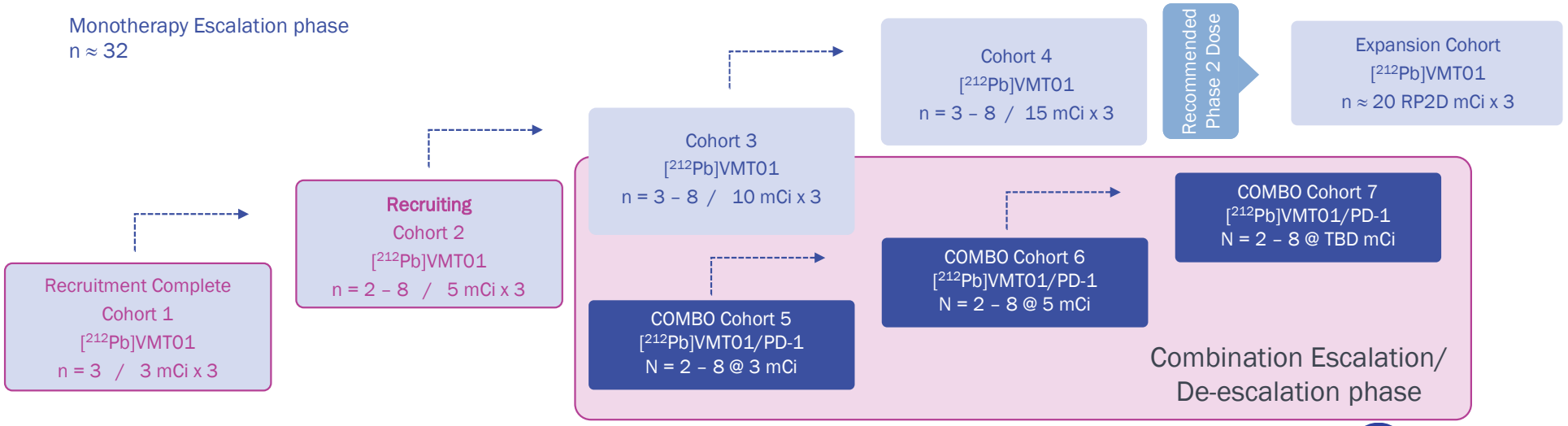
[1]Li et al., Mol. Pharm., 2019; [2]Li et al., Cancers, 2021 [3] Unpublished data - Statistical analysis was performed by Log-rank (Mantel-Cox): *p<0.05, **p<0.01, ns: non-significant

PERSPECTIVE THERAPEUTICS

Trial Design: [^{212}Pb]VMT01-T101 mTPI1 Phase 1/2a For Metastatic Melanoma

Phase I Amendment: [^{212}Pb]VMT01 in Combination with Nivolumab – Sequential Design

Primary Objective:	To determine the MTD/MFD of [^{212}Pb]VMT01 (RP2D) in combination with PD-1 inhibitor (nivolumab)
Population:	Enroll ~52 subjects Unresectable or metastatic MC1R-positive melanoma After 1L SOC
Design Methodology:	Bayesian mTPI2 based on iterative toxicity probability monitoring
Imaging:	[^{203}Pb]VMT01 SPEC/CT
Therapeutic Dose:	3 – 15 mCi dose escalation of [^{212}Pb]VMT01 with fixed dosing every 8 weeks for up to 3 cycles **Combination: Nivolumab 480 mg Q4W for up to 2 yrs**
Estimated Time to Primary Completion:	~18 months
Dosimetry:	To be assessed using 15 - 25 mCi therapeutic surrogate [^{203}Pb]VMT01



[1]mTPI-2: Modified toxicity probability index
https://clinicaltrials.gov/study/NCT05655312

PERSPECTIVE THERAPEUTICS

Pan Cancer Target: PSV359

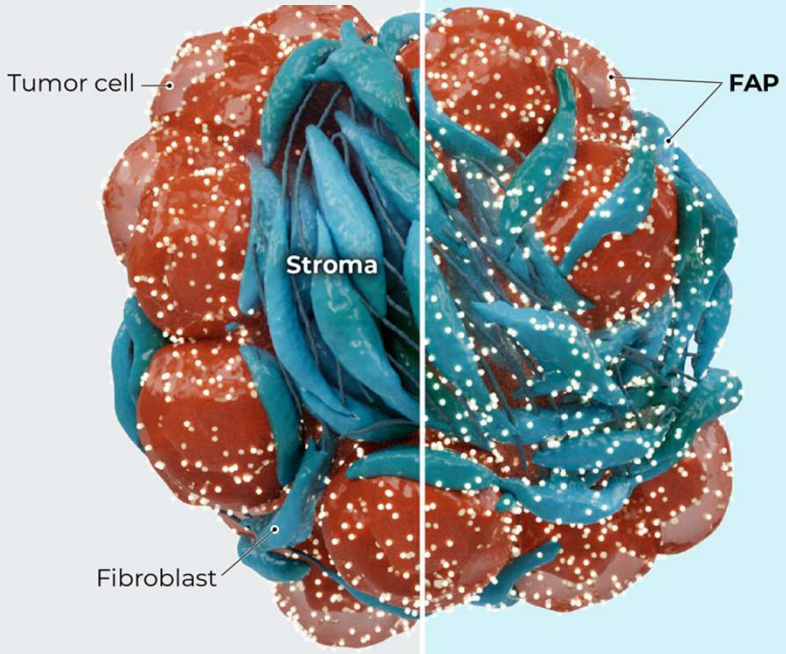
Preclinical Efficacy and First in Human Images of Novel Peptide Targeting Fibroblast Activation Protein alpha (FAP-α)

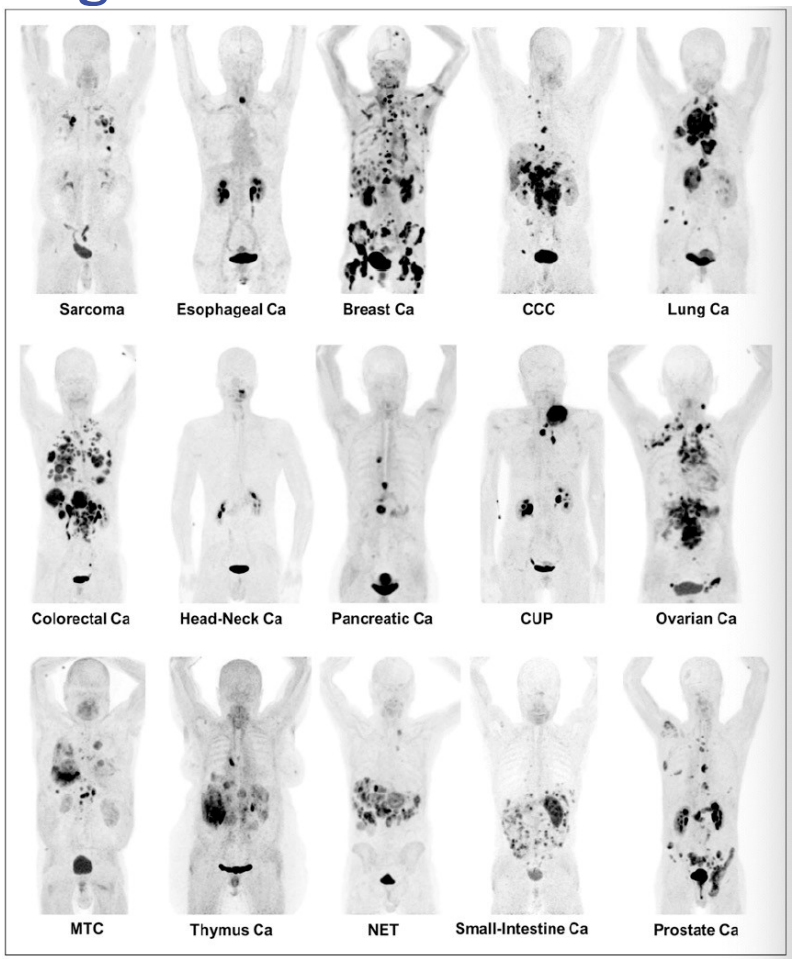
PERSPECTIVE THERAPEUTICS

Fibroblast Activation Protein α is a Pan Cancer Target

Tumor stroma cells do not typically express cancer-specific markers like SSTR2 or MC1R

FAP is primarily expressed on tumor stroma cells, but also on some cancer cells





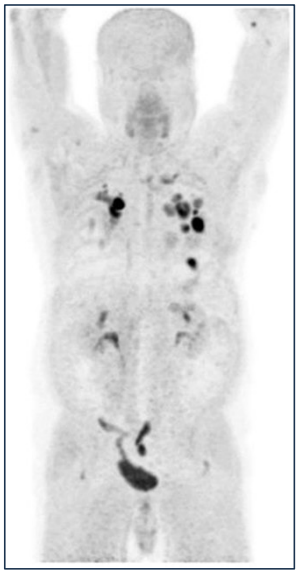
Kratochwil et al., JNM, 2019

PERSPECTIVE THERAPEUTICS

Fibroblast Activation Protein α is a Pan Cancer Target[1]

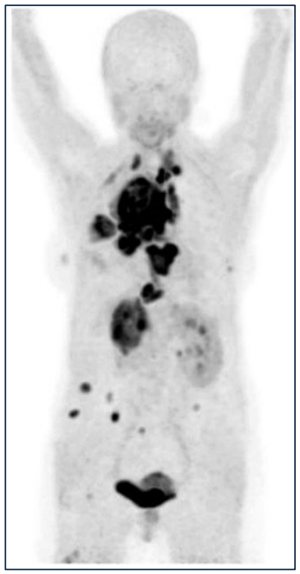
Multiple imaging products in development such as ^{68}Ga-FAPi, but significant therapeutic opportunity remains

Expression of FAP-α on Tumor Cells

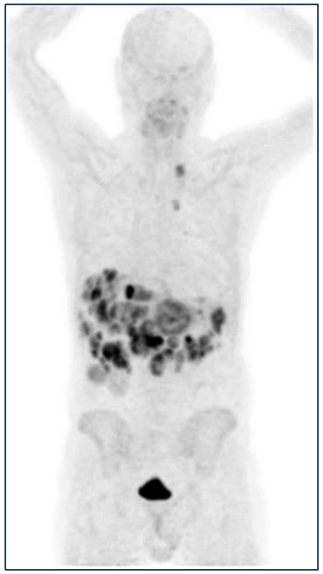


Sarcoma

Expression of FAP-α on Tumor Stroma Cells

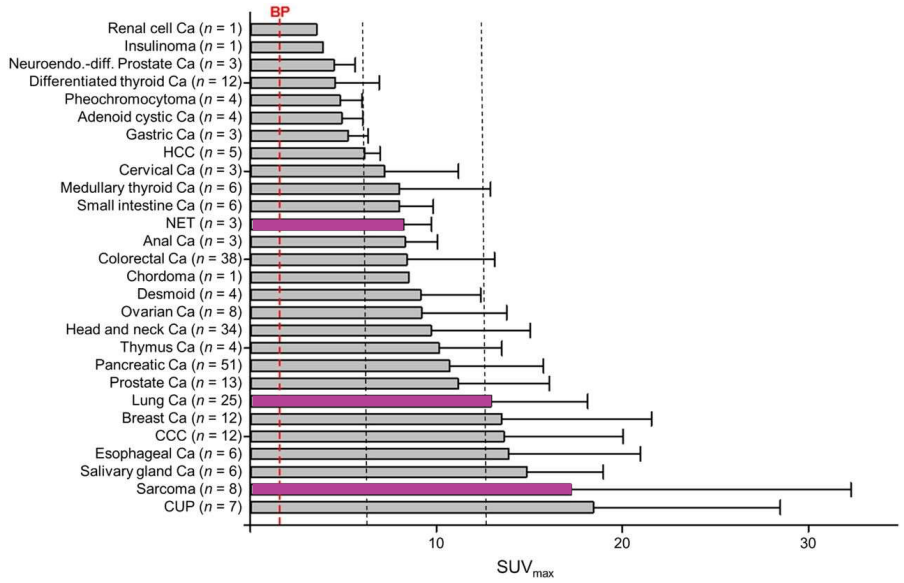


Lung Cancer



NETs

Average SUV_{max} of ^{68}Ga-FAPI PET/CT Across 28 Different Cancer Types



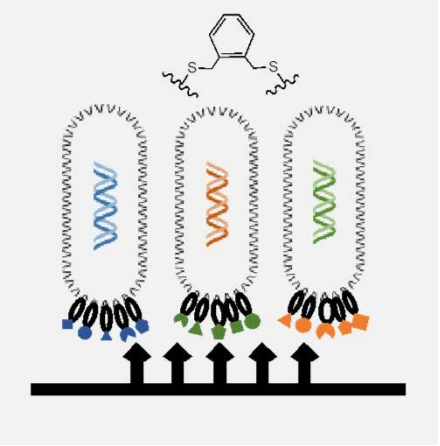
[1]Kratochwil et al., JNM, 2019

PERSPECTIVE THERAPEUTICS

Fibroblast Activation Protein α-targeted Novel Compound Development

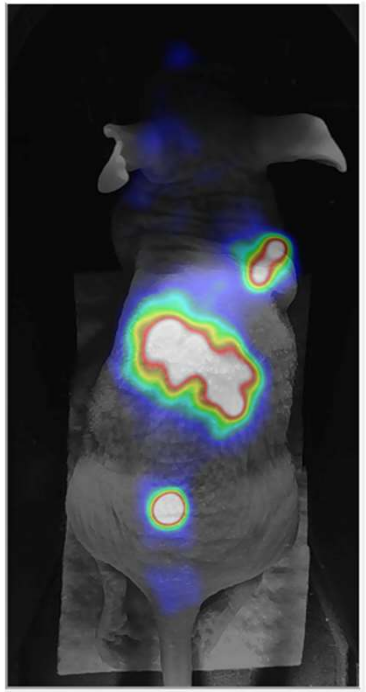
In-house peptide synthesis and in vivo capability allows rapid iteration and optimization of novel compounds

Phage display screening

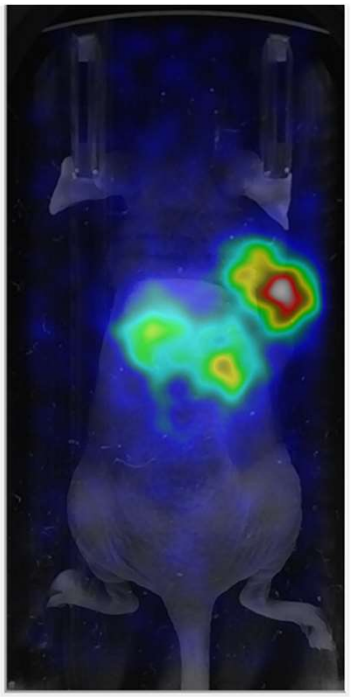


- Phage display followed by affinity maturation
- Bioconjugate chemistry and further optimization
- In vitro and in vivo binding assays identified lead candidates

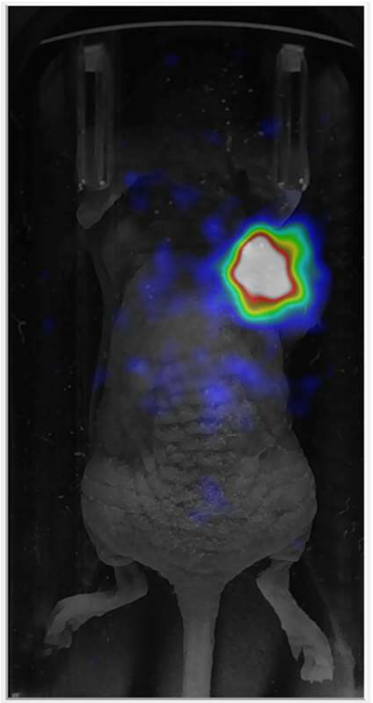
Compound 3-30



Compound 3-42



Compound 3-59



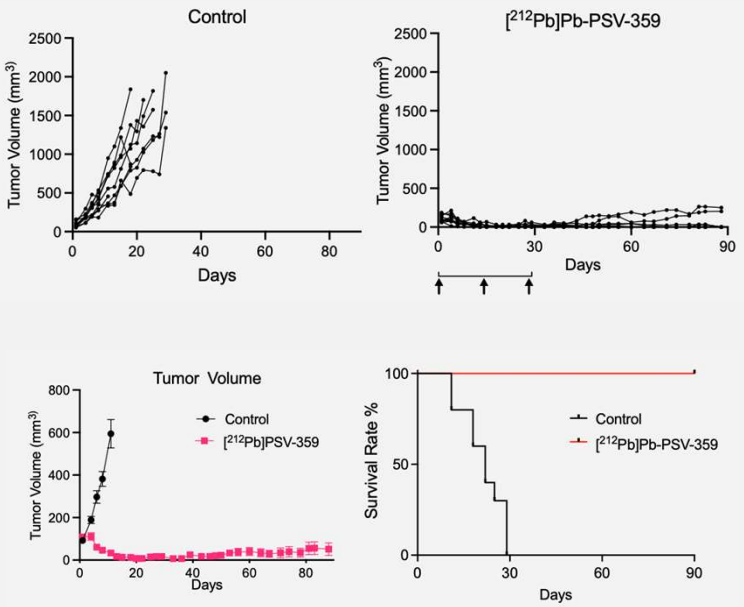
PERSPECTIVE THERAPEUTICS

[^{212}Pb]PSV359 Demonstrates Preclinical Efficacy in Human Fibrosarcoma Model

Compares favorably against other therapeutic products in development[2]

Preclinical [^{212}Pb]PSV359 Targeted Alpha Therapy[1]

hFAP-HT1080 Fibrosarcoma Model – Expressing hFAP-α



90-day results

European Journal of Nuclear Medicine and Molecular Imaging (2022) 49:3651–3667
https://doi.org/10.1007/s00259-022-05842-5

ORIGINAL ARTICLE

Check for updates

Preclinical evaluation of FAP-2286 for fibroblast activation protein targeted radionuclide imaging and therapy

Dirk Zboralski[1] · Aileen Hoehne[1] · Anne Bredenbeck[1] · Anne Schumann[1] · Minh Nguyen[2] · Eberhard Schneider[1] ·

Summary Table

Treatment	*MTV, Day 0 (mm^3, mean ± SD)*	*MTV, Day 9 (mm^3, mean ± SEM)*	*MTV, Day 23 (mm^3, mean ± SEM)*	*TGI, Day 9 (%)*	*MST (Day)*	*Tumor Free Mice (N, %)*
Vehicle	169 ± 21	952 ± 195	NA	NA	16.5	0/10 (0)
^{177}Lu-FAP-2286 (30 MBq)	169 ± 23	107 ± 15	12 ± 4	108% (*P*<0.0001)*	NR	4/10 (40)
^{177}Lu-FAPI-46 (30 MBq)	168 ± 22	245 ± 76	1210 ± 185 (*P*<0.0001)*	90 (*P*=0.0006)*	27.5	0/10 (0)

BWL, body weight loss; MTV, mean tumor volume; SEM, standard error of the mean; TGI, tumor growth inhibition; MST, median survival time; *P-value was determined for day 9 comparisons to the vehicle group, while for day 23 comparison was between ^{177}Lu-FAP-2286 and ^{177}Lu-FAPI-46

40-day results

Comparison against other FAP-targeted therapies in development indicates promise of [^{212}Pb]PSV359 in preclinical setting

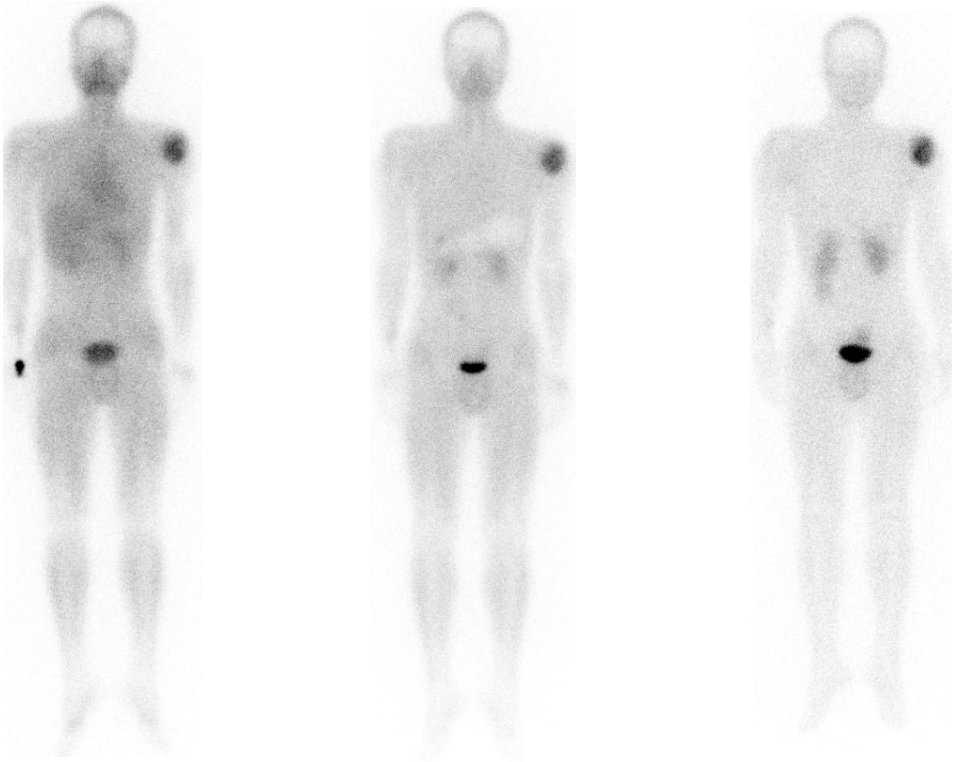
[1]Perspective unpublished data; [2]Zboralski et al., EJNMMI, 2022

PERSPECTIVE THERAPEUTICS

First in Human [^{203}Pb]PSV359 SPECT Imaging – Patient 1 Chondroblastic Osteosarcoma

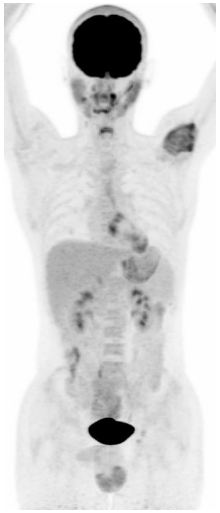
Treating Physician:
Dr. Ishita B Sen
Director & Head
Dept. of Nuclear Med.
& Molecular Imaging
Fortis Memorial Research
Institute, Gurgaon, India

[^{203}Pb]PSV359



1 hr 4 hr 18 hr

[^{18}F]FDG



Case 3: 16 yrs/Male,
Chondroblastic
Osteosarcoma
Injected Dose 7.2 mCi
(266.4 MBq)
(anterior views)

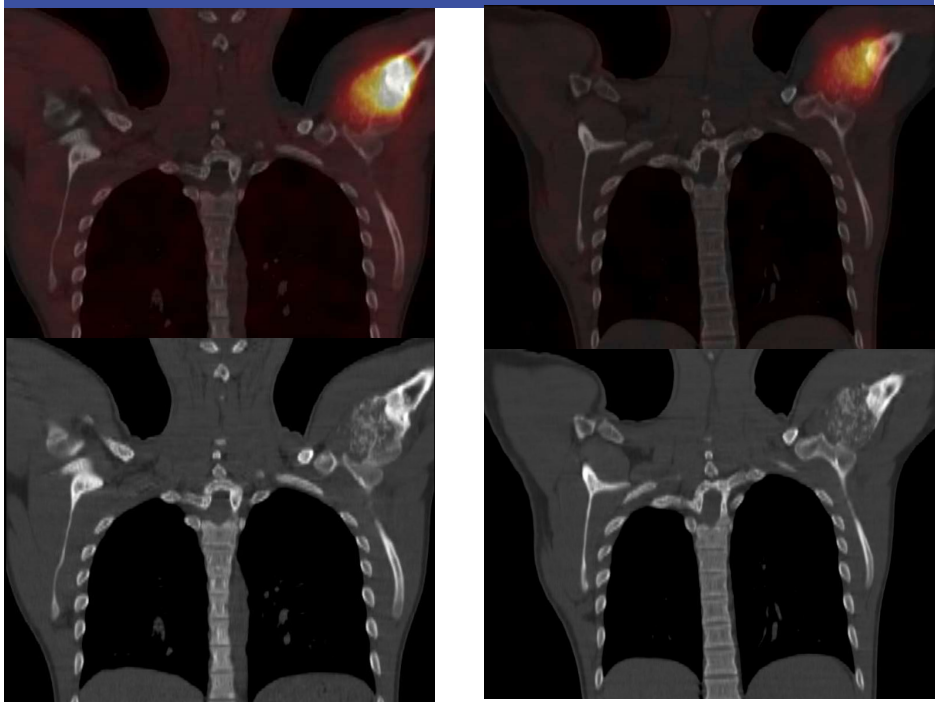
Fortis Hospital, Ishita Sen MBBS, unpublished data

PERSPECTIVE THERAPEUTICS

First in Human [^{203}Pb]PSV359 SPECT Imaging – Patient 1 Chondroblastic Osteosarcoma

Lesion in head of left humerus

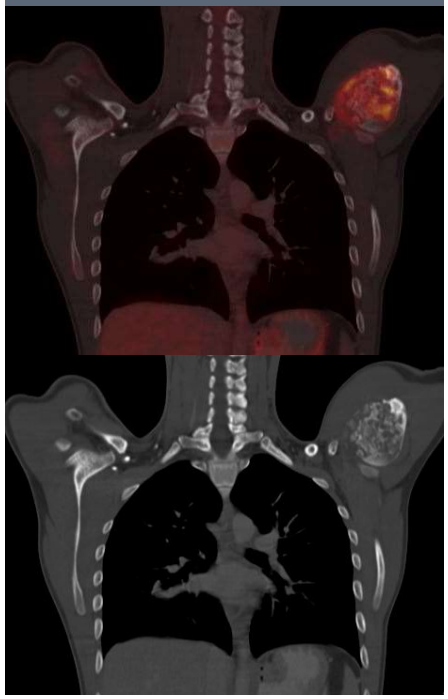
[^{203}Pb]PSV359 SPECT/CT



4 hr

18 hr

[^{18}F]FDG

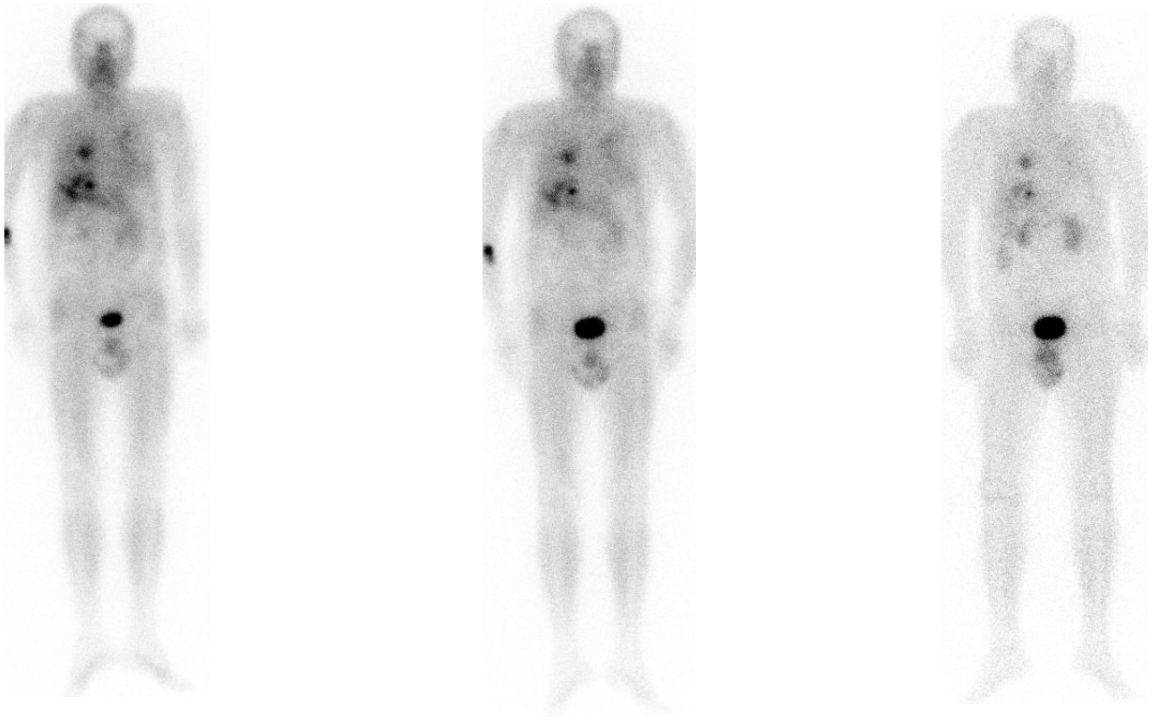


Fortis Hospital, Ishita Sen MBBS, unpublished data

PERSPECTIVE THERAPEUTICS

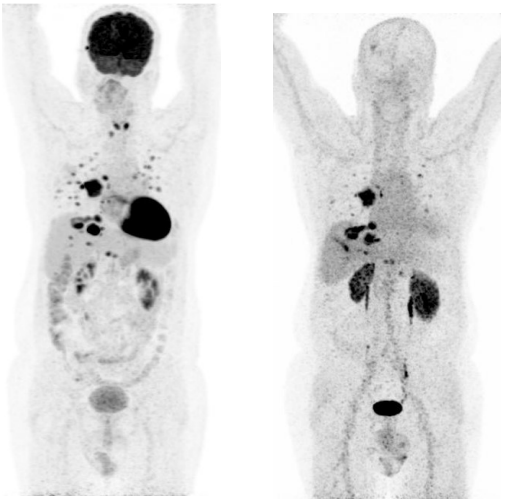
First in Human [^{203}Pb]PSV359 SPECT Imaging – Patient 2 Neuroendocrine Tumor

[^{203}Pb]PSV359



1 hr | 4 hr | 18 hr

[^{18}F]FDG | [^{68}Ga]FAPI-2286

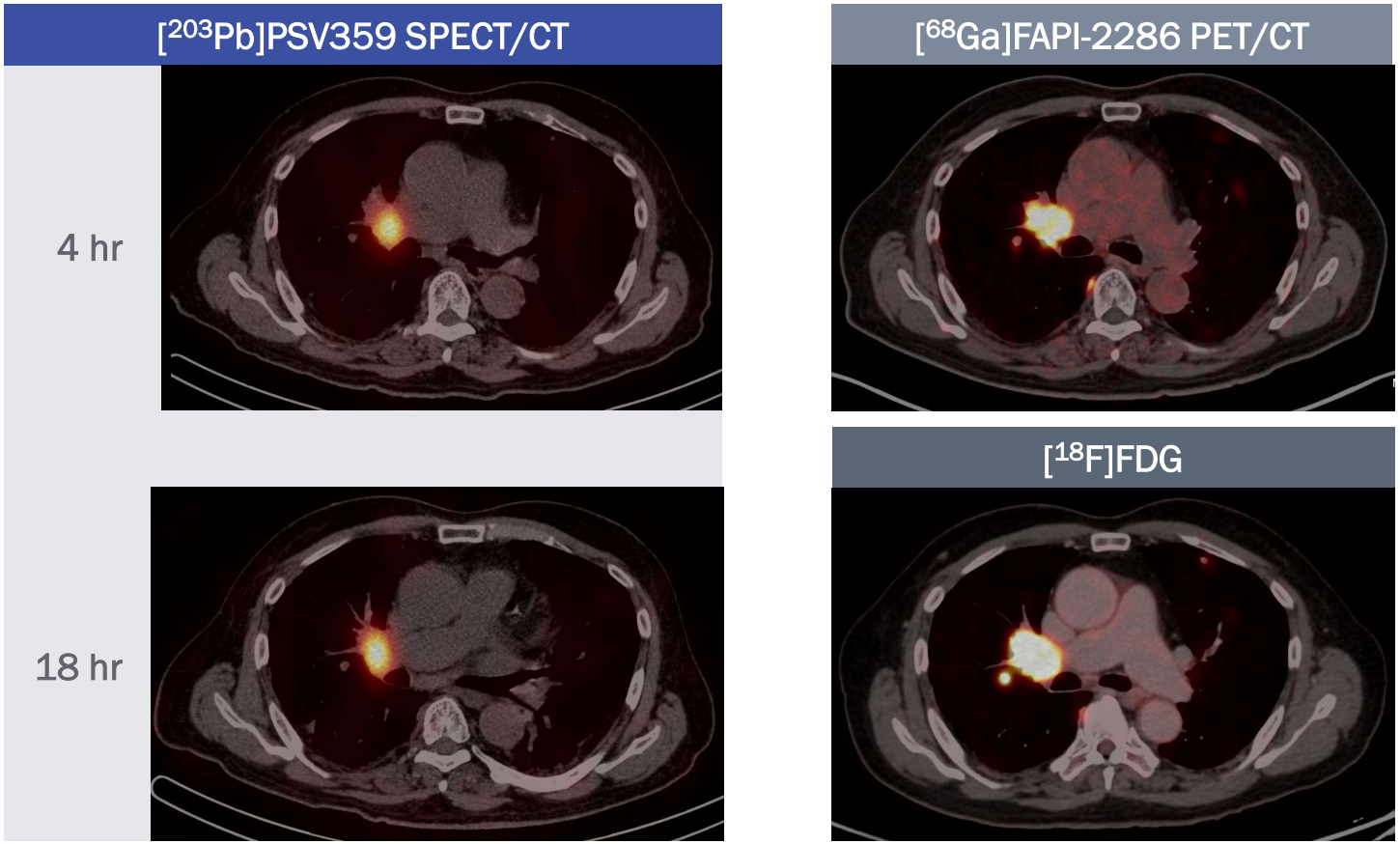


Case 2: 71yrs/Male,
Metastatic GEP
Neuroendocrine Tumor
Injected Dose: 7.0 mCi
(259 MBq)
(anterior views)

Fortis Hospital, Ishita Sen MBBS, unpublished data

PERSPECTIVE THERAPEUTICS

First in Human [^{203}Pb]PSV359 SPECT Imaging – Patient 2 Neuroendocrine Tumor

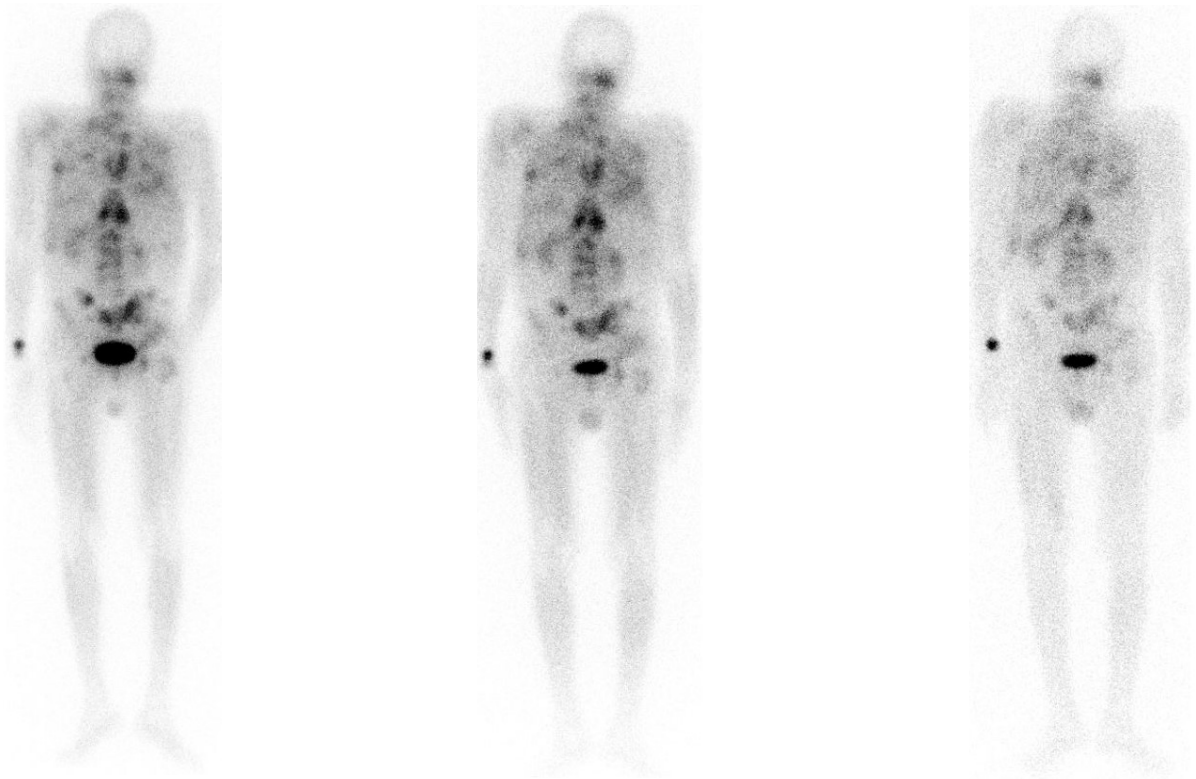


Fortis Hospital, Ishita Sen MBBS, unpublished data

PERSPECTIVE THERAPEUTICS

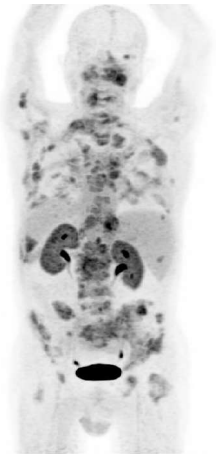
First in Human [^{203}Pb]PSV359 SPECT Imaging – Patient 3 Lung Adenocarcinoma

[^{203}Pb]PSV359



1 hr 4 hr 18 hr

[^{68}Ga]FAPI-2286 PET



Case 3: 51 yrs/Male, Metastatic adenocarcinoma lung
Injected dose:
7.0 mCi (259 MBq)
(posterior views)

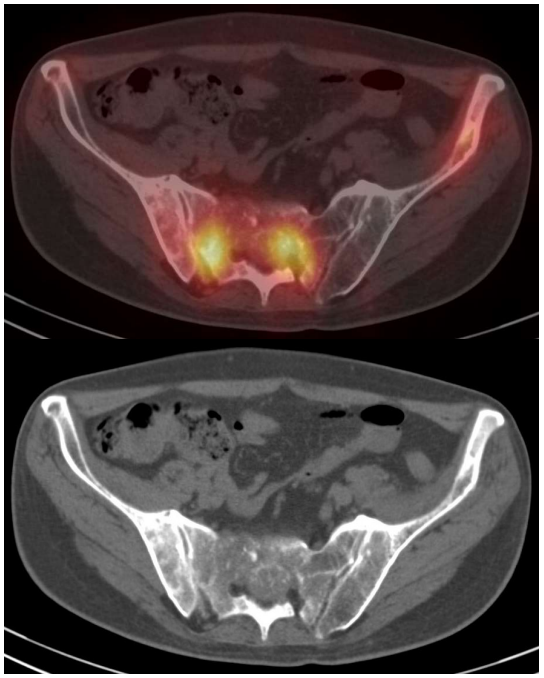
Fortis Hospital, Ishita Sen MBBS, unpublished data

PERSPECTIVE THERAPEUTICS

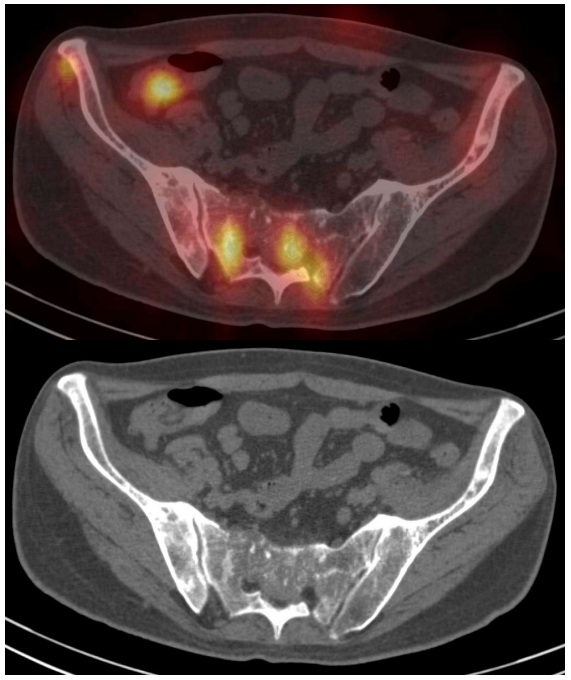
First in Human [^{203}Pb]PSV359 SPECT Imaging – Patient 3 Lung Adenocarcinoma

Lytic lesion in sacrum

[^{203}Pb]PSV359 SPECT/CT

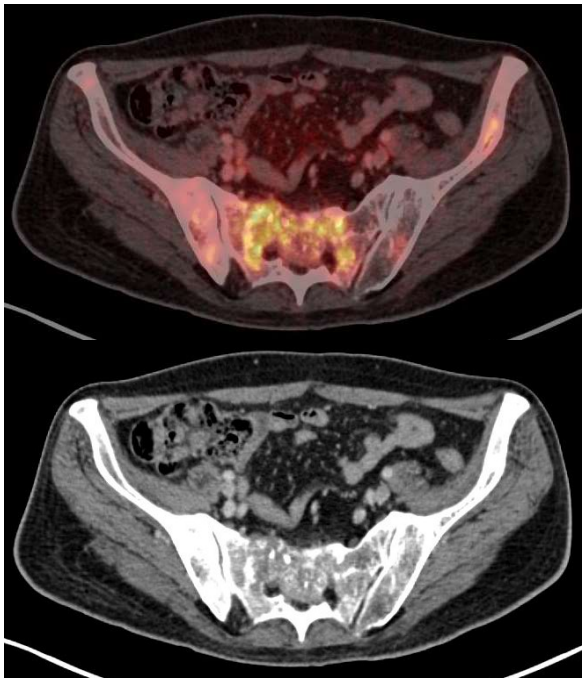


4 hr



18 hr

[^{68}Ga]FAPI-2286 PET/CT

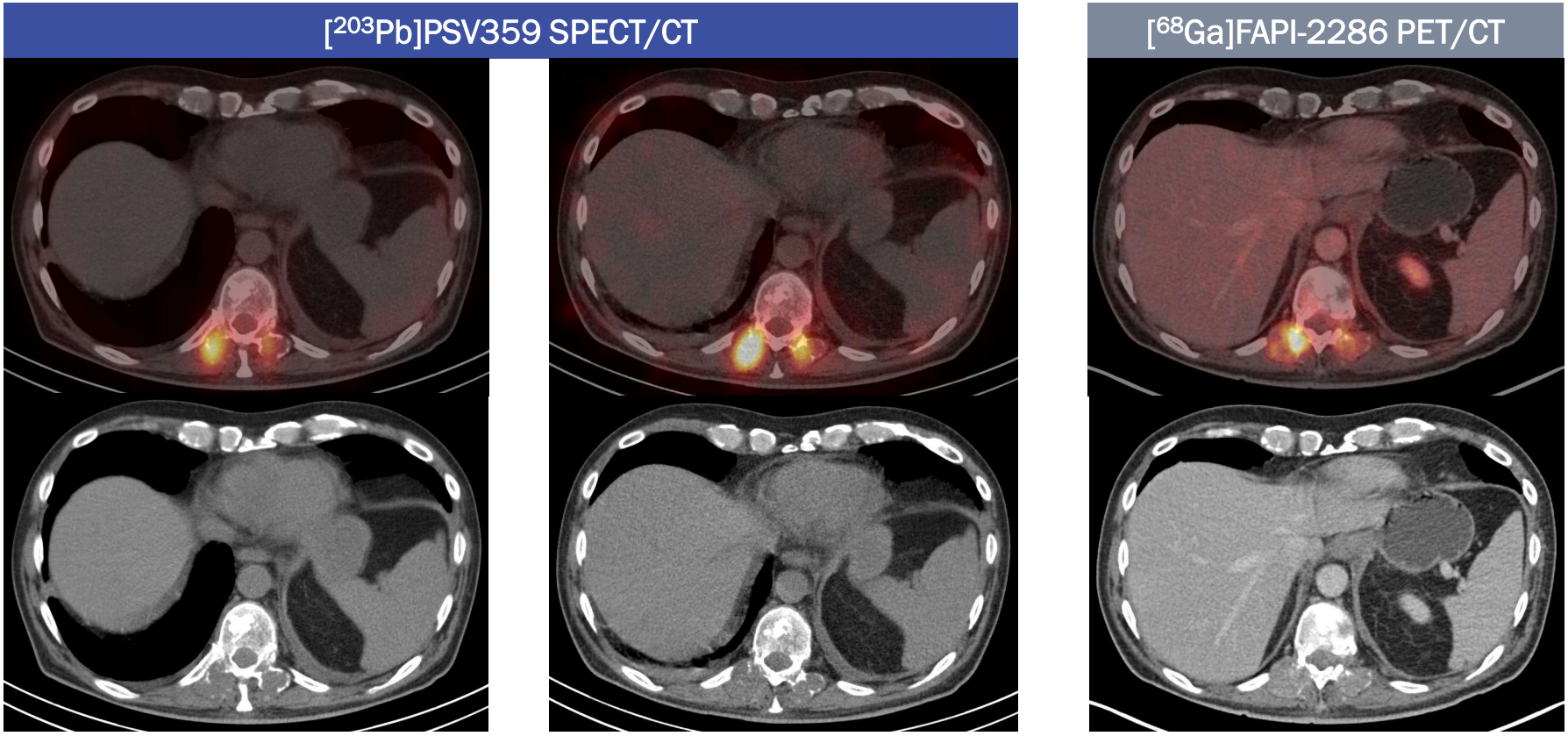


Fortis Hospital, Ishita Sen MBBS, unpublished data

PERSPECTIVE THERAPEUTICS

First in Human [^{203}Pb]PSV359 SPECT Imaging – Patient 3 Lung Adenocarcinoma

Lytic lesion in thoracic vertebra

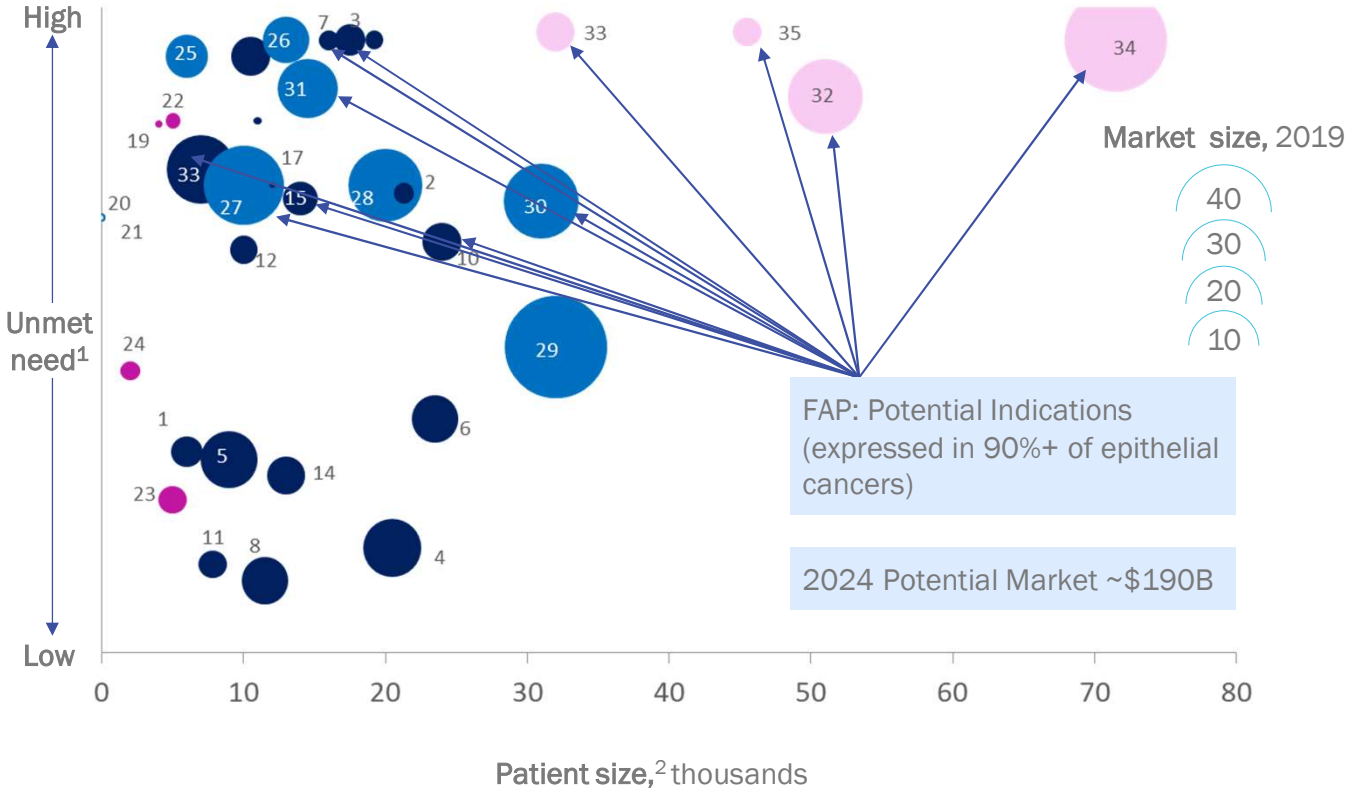


Fortis Hospital, Ishita Sen MBBS, unpublished data

PERSPECTIVE THERAPEUTICS

Fibroblast Activated Protein α is a Pan Cancer Target with Significant Market Potential

Tumor types with large patient populations and high unmet need



- Major opportunities
  - 1 ALL
  - 2 AML
  - 3 Bladder
  - 4 CLL
  - 5 CML
  - 6 DLBCL
  - 7 Esophageal
  - 8 FL
  - 9 GIST
  - 10 Head and neck
  - 11 HL
  - 12 MDS
  - 13 Melanoma
  - 14 NHL-Other
  - 15 Ovarian
  - 16 SCLC
  - 17 TNBC
  - 18 Uterine
- Niche
  - 19 Cervical
  - 20 Glioma
  - 21 Glioblastoma
  - 22 Soft tissue
  - 23 T cell
  - 24 Thyroid
- Established markets
  - 25 Alk
  - 26 EGFR
  - 27 HER2+
  - 28 HR+
  - 29 Myeloma
  - 30 Prostate
  - 31 RCC
- Massive unmet need
  - 32 CRC
  - 33 HCC
  - 34 NSCLC-Other
  - 35 Pancreatic

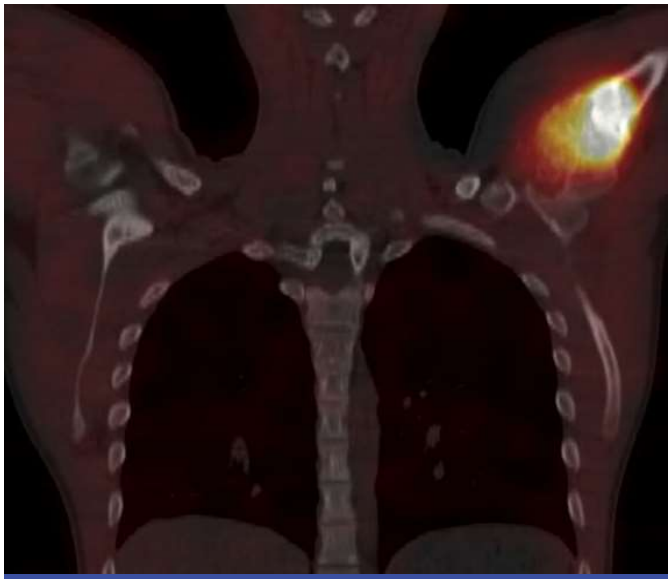
[1]Unmet need defined as one- minus five-year survival rate (overall for heme, metastatic for solid).
[2] Patient size calculated as annual incidence for heme, and larger of mortality and metastatic incidence for solid.
Modified from EvaluatePharma® July 2020, Evaluate Ltd.; Surveillance, Epidemiology, and End Results (SEER) Program

PERSPECTIVE THERAPEUTICS

Summary – PSV359 FAP-α Program

Potential to be a best-in-class pan-cancer targeted alpha particle therapeutic

- FAP-α is a pan-cancer target that is highly expressed many cancers
- Perspective's in-house discovery team has developed an optimized peptide with potential best-in-class characteristics as demonstrated in preclinical models
- First in human clinical SPECT/CT imaging suggests the tumor targeting and retention of the PSV359 compound is excellent, while clearing from normal organs rapidly and completely
- The FAP-α PSV359 program is a significant addition to Perspective's clinical pipeline of targeted alpha therapeutic assets



[^{203}Pb]PSV359 SPECT/CT[1]

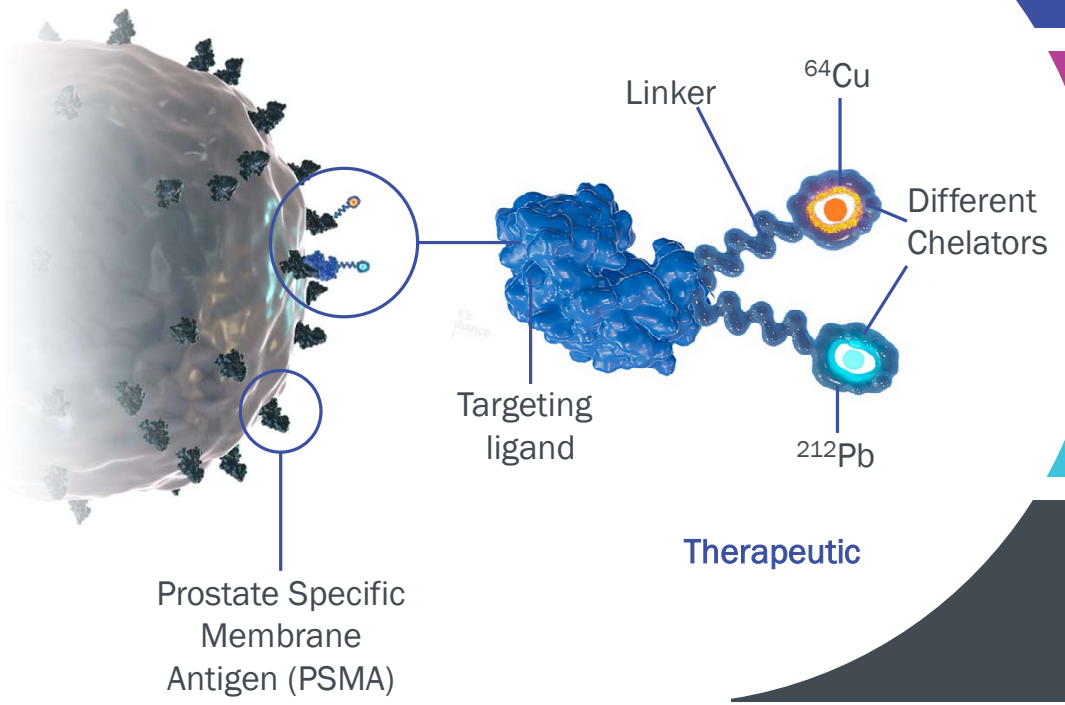
Fortis Hospital, Ishita Sen MBBS, unpublished data (Patient 1, osteosarcoma)

Prostate Cancer Program: PSV401

A differentiated PSMA-targeted radiohybrid molecule for dual PET imaging and targeted alpha therapy

Prostate Cancer Program: PSV40X

A differentiated PSMA-targeted radiohybrid molecule for dual PET imaging and targeted alpha therapy



PSMA is a clinically and commercially validated target for radioligand therapy

Combines two chelators with single targeting ligand to provide identical distribution of imaging and therapeutic agents

Has shown promise in reduction of salivary gland uptake in preclinical models of prostate cancer[1]

Technology licensed from Mayo Clinic January 2024
IND-enabling studies underway
First in human data expected in 2024

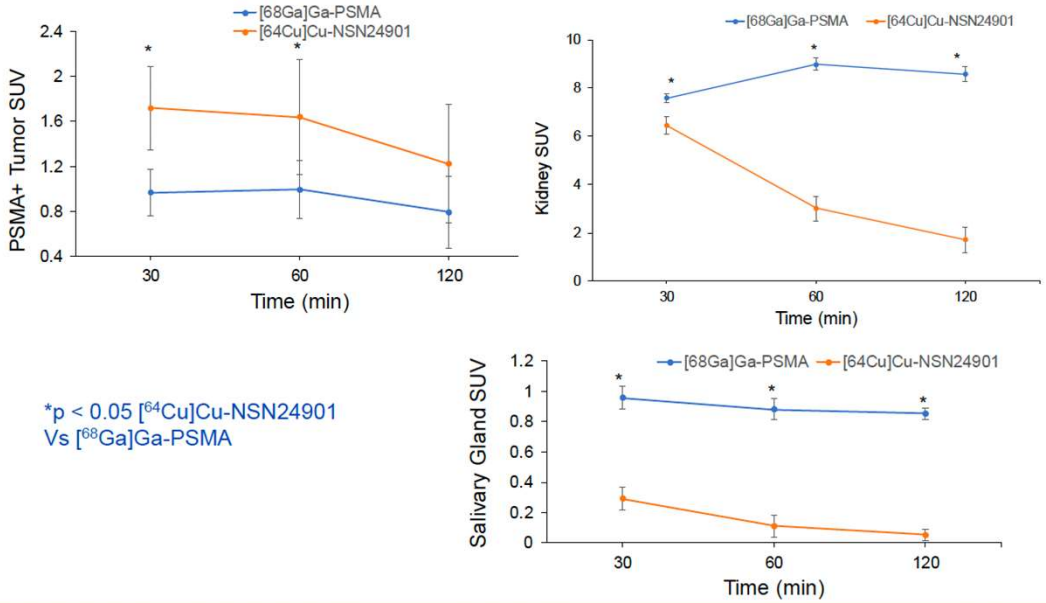
[1]Johnson et al., RPT Interest Group June 7 2023 https://rrp.cancer.gov/working_groups/AlphaPET-RPT_Int_group_lecture.pdf

PERSPECTIVE THERAPEUTICS

PSV40X: Improved Preclinical Metrics for a Superior Therapeutic Window in Prostate Cancer

PSV404 (designated NSN24901 by Mayo Clinic) shows promise in preclinical setting

Comparison of Uptake of [^{68}Ga]PSMA-11 and [^{64}Cu]PSV404 ("NSN24901") in Tumor, Kidney and Salivary Gland of LNCaP Tumor Athymic Nude Mice



Multiple International Patents : Pending

25th June 2023
SNMMI-CE14, Chicago IL, USA

- Higher tumor accumulation/retention
- Significantly lower salivary gland uptake and retention
- Significantly lower kidney accumulation and retention
- Higher therapeutic window and reducing the potential for xerostomia that limits current PSMA-targeted prostate cancer radiopharmaceutical therapies

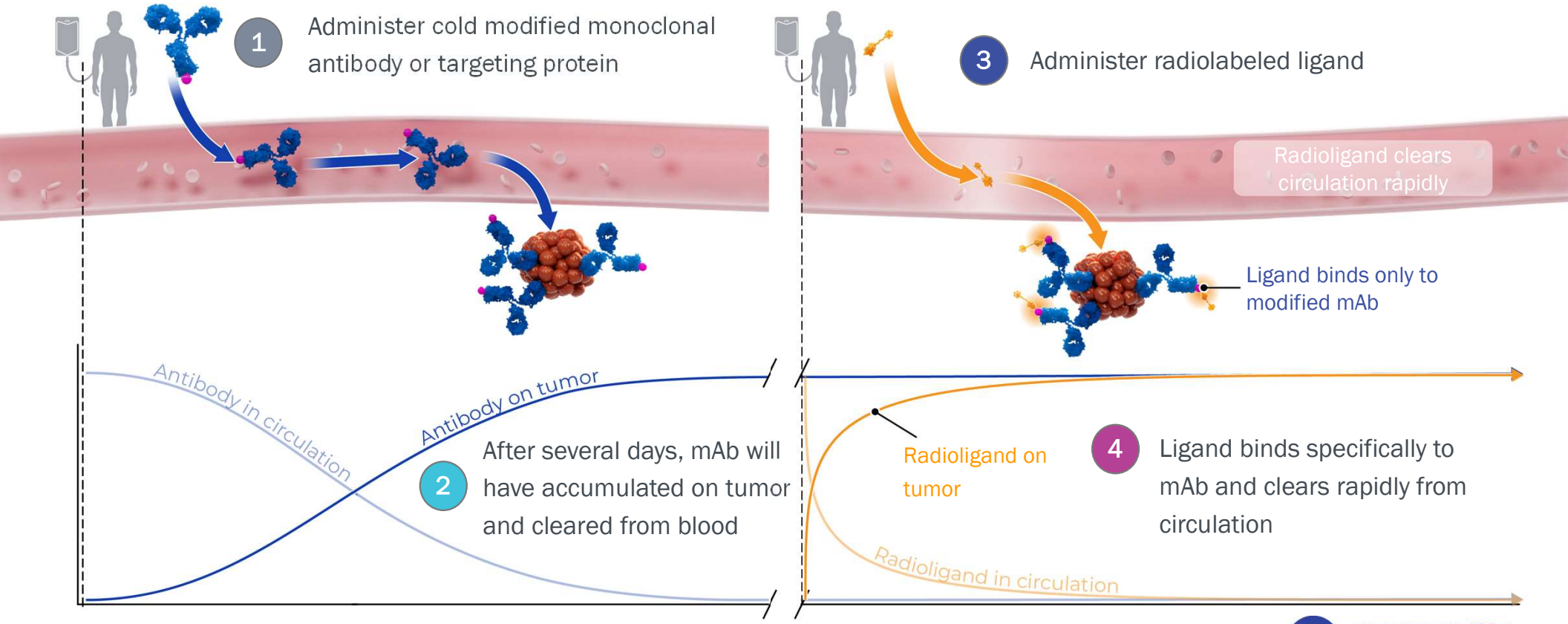
PERSPECTIVE THERAPEUTICS

Pre-Targeting Platform

The Next Generation of Targeted Alpha Particle Radiopharmaceuticals

Pre-Targeting Platform Background

Relies on the different kinetics of large proteins and small molecules and a multi-step process



PERSPECTIVE THERAPEUTICS

Manufacturing, Production and Logistics of ^{212}Pb-labeled Therapeutics

The Path to Commercial Supply

^{212}Pb is Plentiful, Storable, Scalable & Suitable for Distributed Logistics

The supply chain is lower-risk and more robust than other therapeutic isotopes

Isotope Source

Naturally occurring in mining waste

Also produced in industrial nuclear processes

Can be made on demand if needed

All other therapeutic isotopes require capital-intensive infrastructure manufacturing processes (irradiation)

Isotope Purification

Parent isotope Thorium-228 can be stored (2 yr half-life)

^{212}Pb purified from 228Th or 224Ra source in simple separation step

VMT-α-GEN enables shipping of isotope and purification of ^{212}Pb in one package

Product Manufacturing

VMT-α-GEN ^{212}Pb generator technology scales for commercial production

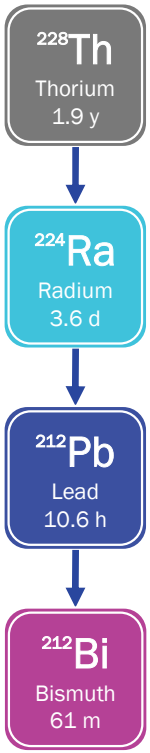
Extremely pure isotope allows straight forward manufacturing process

10.5 hr half life of ^{212}Pb allows for robust regional distribution of finished radiopharmaceuticals

PERSPECTIVE THERAPEUTICS

Isotope Decay Chain Dictates Supply, Purification, Manufacturing & Logistics

Naturally Occurring Isotope Decay – No Irradiation Processes Required



Plentiful Supply:
Naturally occurring, or
produced as a waste product

- Multiple global suppliers including natural decay
- 2 year half-life allows stockpiling

Chemical Separation:
Allows for Ra-based
generators of ^{212}Pb

- Half-life allows global distribution
- Weekly delivery of ^{224}Ra enables daily ^{212}Pb
- 3.6 day half-life allows local stockpiling

Chemical Separation from ^{224}Ra:
Isotope used for manufacturing
finished product

- Regional finished product manufacture
- Leverages existing networks for logistics

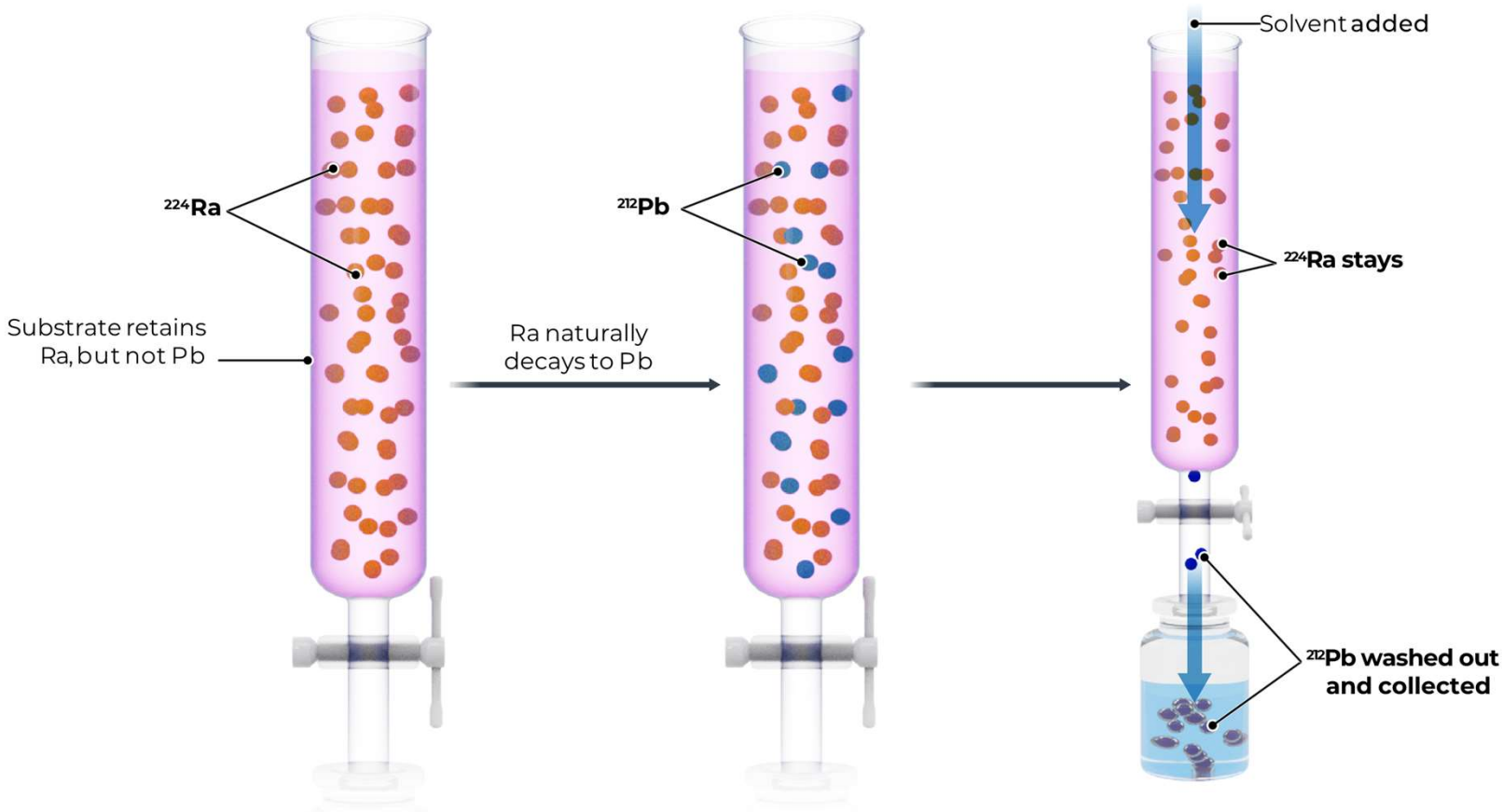
High dose-rate alpha-emitting
therapeutic isotope

- ^{212}Pb acts as *in vivo* “nanogenerator” of alphas
- Perspective’s chelator retains ^{212}Bi in drug

PERSPECTIVE THERAPEUTICS

^{212}Pb Isotope Purification Without Just-in-time Irradiation

Simple chemical separation technology of natural decay products de-risks supply chain



PERSPECTIVE THERAPEUTICS

^{212}Pb Supply via Reusable Desktop Isotope Generator

VMT-α-GEN

- Extensive feedstock from nuclear and mining waste material
- Long-term supply contract secured with US DOE
- On demand daily doses
  - Auto-regenerates overnight
  - ~1 week shelf life

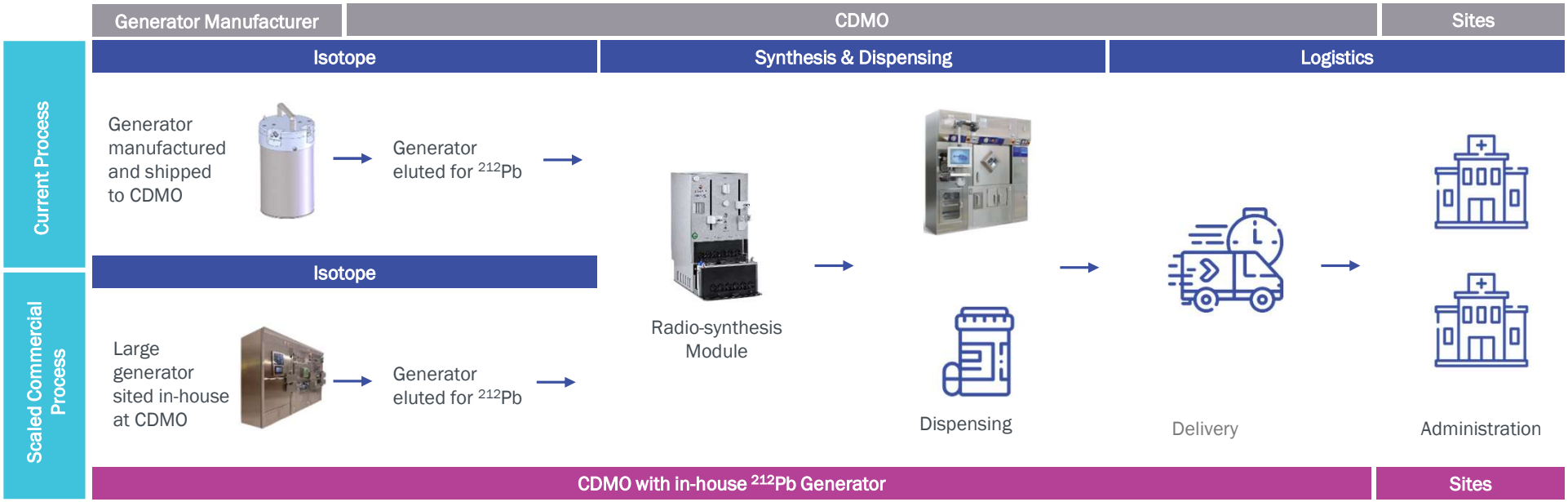
Small, Elegant ^{212}Pb Isotope Generator

- Integrated lead shielded containment
- Simple inlet and outlet ports
- Radioactive feedstock for nearly 300 generators fits in a small vial

PERSPECTIVE THERAPEUTICS

Scalable Manufacturing and Distribution Logistics

Perspective's plan to flexibly scale manufacturing to commercial levels (100,000+ doses per year)



- Commercial supply will require the use of an isotope production system of larger scale than the current $^{224}Ra/^{212}Pb$ generators
- The current isotope separation process remains highly scalable with larger activity levels
- Regional CDMOs will have capabilities to expand capacity as needed as more ^{212}Pb products come on-line

PERSPECTIVE THERAPEUTICS

Isotope Decay Chain Dictates Supply, Purification, Manufacturing & Logistics

Naturally Occurring Isotope Decay – No Irradiation Processes Required

^{228}Th
Thorium
1.9 y

- Central continental supply
- Eluted weekly for ^{224}Ra

^{224}Ra
Radium
3.6 d

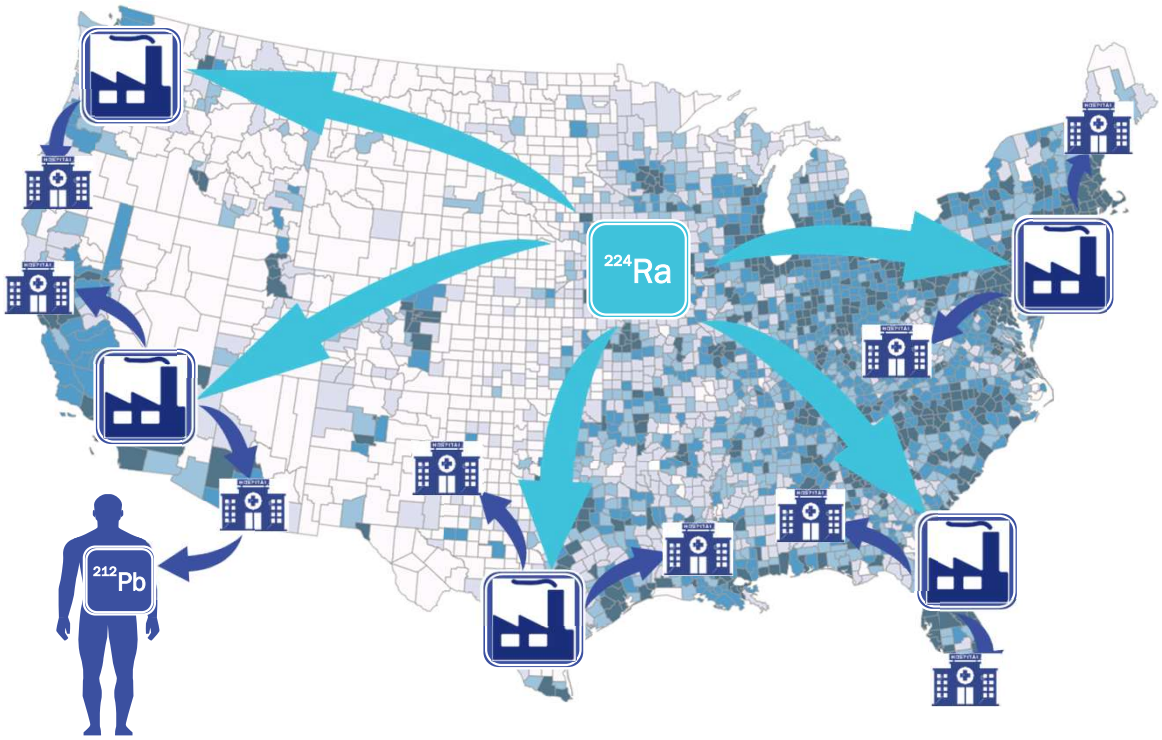
- Distributed continentally
- Eluted daily for ^{212}Pb

^{212}Pb
Lead
10.6 h

- Daily manufacture of finished doses
- Leverages existing networks for logistics

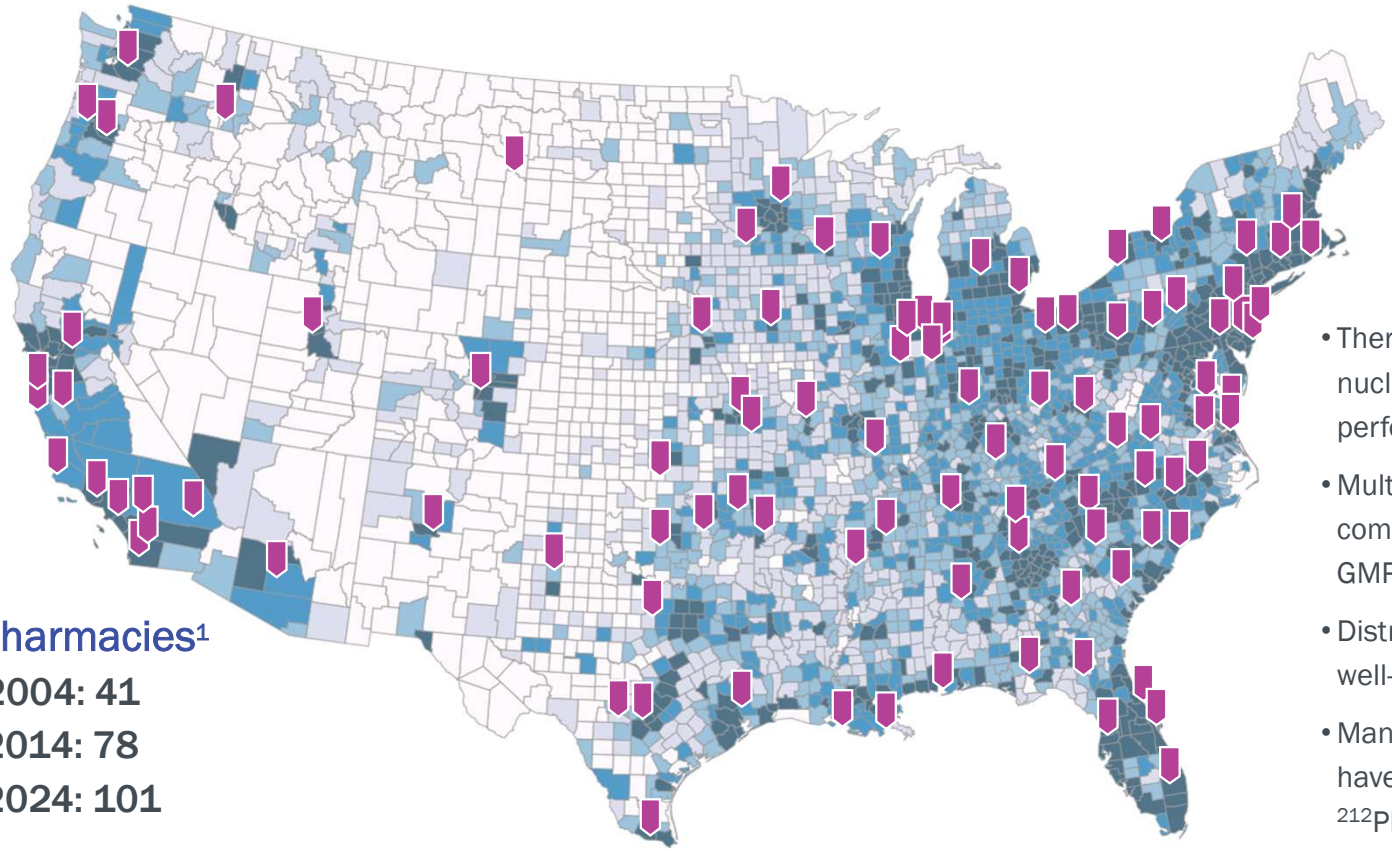
^{212}Bi
Bismuth
61 m

- ^{212}Pb acts as *in vivo* "nanogenerator" of alphas



Infrastructure Modeling: Commercial History of PET Pharmacy Network Development

Nuclear medicine capability filled in to meet demand as clinical adoption of ultra short half-life PET agents widened



PET Pharmacies[1]

2004: 41

2014: 78

2024: 101

- There were 40+ million diagnostic nuclear medicine procedures performed in the US in in 2022
- Multiple networks exist in a competitive environment of 100+ GMP PET radiopharmacies
- Distribution logistics are mature and well-developed
- Many of these diagnostic products have much shorter half-lives than ^{212}Pb

[1] Company estimates

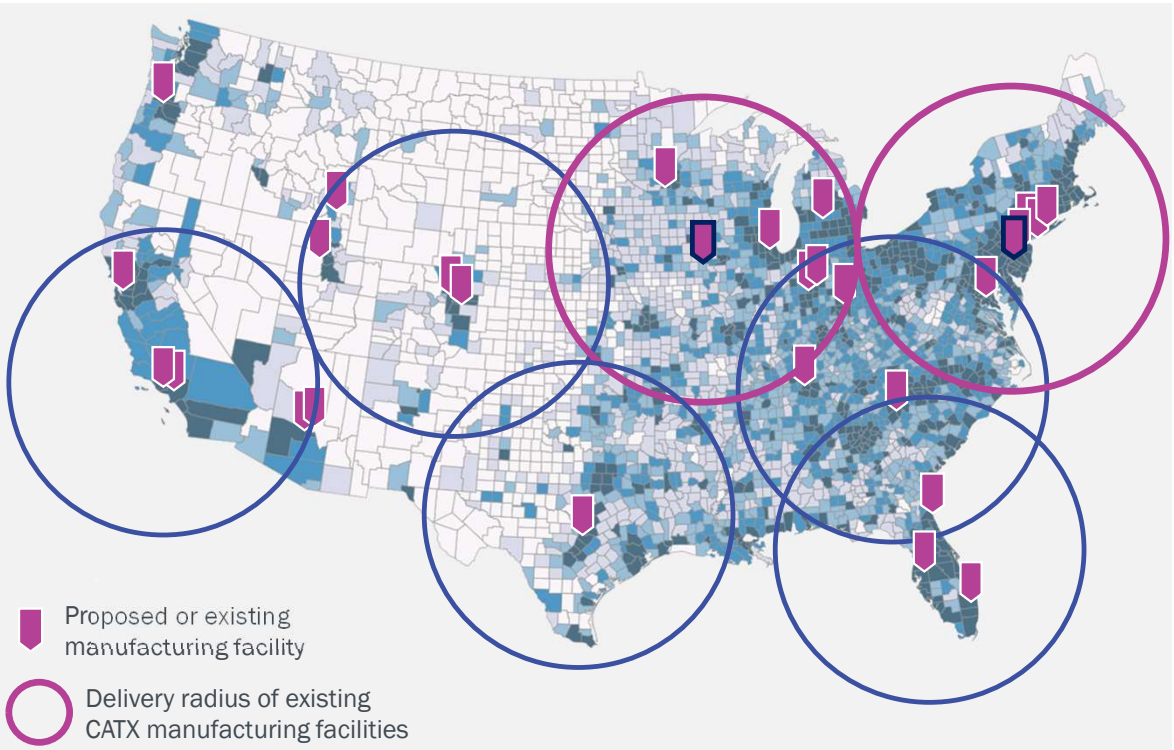
PERSPECTIVE THERAPEUTICS

Regional Manufacturing Allows Commercialization of ^{212}Pb-labeled Finished Products

The "network effect" ensures reliable supply for intermediate half-life therapeutics

Location	Radius 11 hr – 400 miles
Coralville, IA	51 m
Somerset, NJ	75 m
Los Angeles, CA	46 m
Austin, TX	32 m
Atlanta, GA	57 m
Orlando, FL	25 m

- Top 6 sites cover nearly 300 million people within a one half-life (11 hr) delivery radius[1]
- Products can also be driven further or flown as necessary



Circles represent distribution radii for facilities currently producing or sites anticipated for future manufacturing

[1] Company estimates

PERSPECTIVE THERAPEUTICS

Strong Intellectual Property Portfolio

Fully Licensed University/Perspective-owned IP

4 provisional patents

- Composition of Matter and Use radiometal separations technology, novel pan-cancer product , generator technologies (U.S., E.U., Australia)

3 non-provisional patent applications

- Composition of Matter and Use VMT-α-NET, chelator, and novel pan-cancer product (U.S., E.U., Australia)

2 issued patents - Expiry in 2037

- Composition of matter and use on melanoma targeting peptides (U.S.) including VMT01/02 and Pb-Specific-Chelator (PSC) (U.S., E.U., Australia)

IP Portfolio covers all aspects of radiopharmaceutical value chain

Potential for Orphan Drug Designation

Potential for U.S. FDA Priority Review Voucher: VMT-α-NET is a candidate for pediatric neuroblastoma indication

Appendix

Our Mission

Targeting cancer from the inside out

We are developing game-changing ***Precision Medicine Therapeutics*** which harness the power of targeted ***Alpha-Particle Radiotherapies*** that make an impactful difference for cancer patients and the clinicians who treat them.

Who We Are

Perspective Therapeutics (NYSE:CATX) is a clinical stage **precision medicine company**, debuting as a public company in 2023.

With a broad pipeline and **two prioritized lead programs** in clinic, we are disrupting traditional radiation therapy treatment for cancer though developing a new class of ***image guided alpha-particle radiotherapies*** treatments for the most challenging cancers. With an initial focus on **neuroendocrine tumors (NETs)** and **metastatic melanoma**, we have a robust discovery platform to advance our pipeline into the clinic further.

Perspective's personalized theranostic approach arms physicians with companion imaging diagnostics, capturing personalized information about a patient's cancer in the process which can then be used to guide precise radiation therapy, killing cancers from the inside out.

Perspective's core technology hinges on **alpha (α) particle radiation** which deliver large amounts of radioactive energy very specifically to tumors, irreparably damaging DNA and reliably killing the targeted tumor cells.

We believe the use of alpha-particles provides numerous benefits over currently used beta-particle radiotherapies. Alpha-particles generate **more energy** and travel a shorter distance compared to beta-particles, making them **more cytotoxic**, while reducing their effects on healthy tissue.

α-Particles Have Superior Tumor Killing Properties vs. β-Particles

More Powerful Effects Than Approved β Therapy

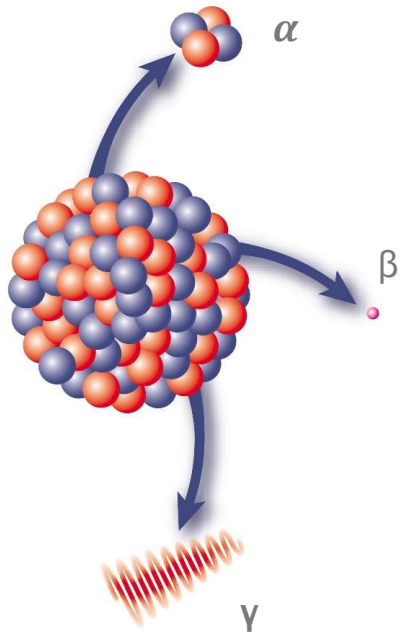
Higher atomic mass
Lethal double-stranded DNA breaks
DNA repair mechanisms overwhelmed

Precision Delivery Provides Targeted Cell Destruction

Deposit energy over 3-5 cell diameters vs. beta particles (up to 200 cells)

Anti-Tumor Immune Response[1]

Evidence for antitumor response alone or in combination with immunotherapies
Consistent with “Abscopal effect” observed with external beam radiation therapy



α-particles are >7,000-fold greater in atomic mass

[1]Li et al., Cancers, Jul 22;13(15), 2021

PERSPECTIVE THERAPEUTICS

Lead-212 (^{212}Pb): The Optimal Therapeutic Isotope

Greater Therapeutic Energy Expected to Improve Outcome with Better Safety

Alpha particle range (up to 3 cell diameters)

Beta range (up to 200 cell diameters)

The destructive energy of an alpha particle is deposited within several cell diameters.
A beta particle spreads its lower energy over a longer range

PERSPECTIVE THERAPEUTICS

Lead (Pb): The Ideal Theranostic Isotope

Ideal Theranostic Requirements	Solutions: $^{203/212}$Pb & Perspective Chelator
Ideal agreement between imaging and therapeutic compounds	^{203}Pb and ^{212}Pb matched pair
Readily available isotope	Generator produced
Ideal chelator	Proprietary chelator carries 0 net charge
Rapid clearance from blood	Conjugation to small peptides
High tumor retention @24 hours	High and sustained binding
Short t-½ gives rapid effect while minimizing environmental impact	Low hospital and patient impact for radiation safety
No unsafe daughter isotopes	Decays to cold Pb

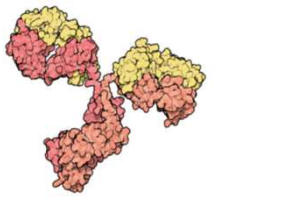
PERSPECTIVE THERAPEUTICS

Peptides are Ideal Ligands for Radiopharmaceutical Therapy

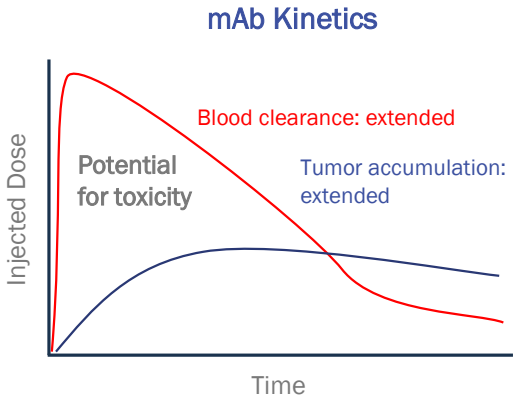
Monoclonal antibodies

Kinetics	
Tumor penetration:	Low
Clearance:	Hepatobiliary (liver)
Biological ½ Life	Long
Target affinity	High
Accumulation time:	Extended
Stability	Questionable

Production	
Manufacturing:	Complex biological
CoGs:	High



mAb Size: 150 kDa

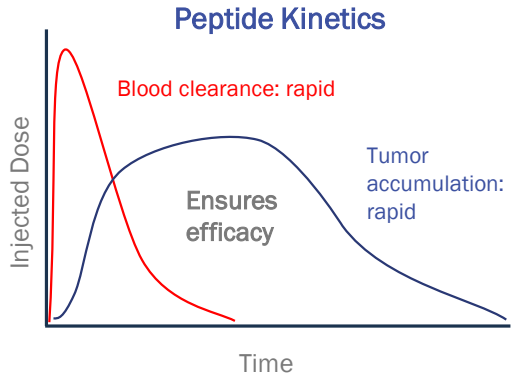


Peptides

Kinetics	
Tumor penetration:	High
Clearance:	Renal (kidneys)
Biological ½ Life	Short
Target affinity	High
Accumulation time:	Rapid
Stability	Excellent

Production	
Manufacturing:	Synthetic
CoGs:	Very low

Peptide Size: 1.5 kDa



PERSPECTIVE THERAPEUTICS

VMT-α-NET is Developed to Address the Unmet Need in NETs

Current Standard of Care limited to subset of NETs patients

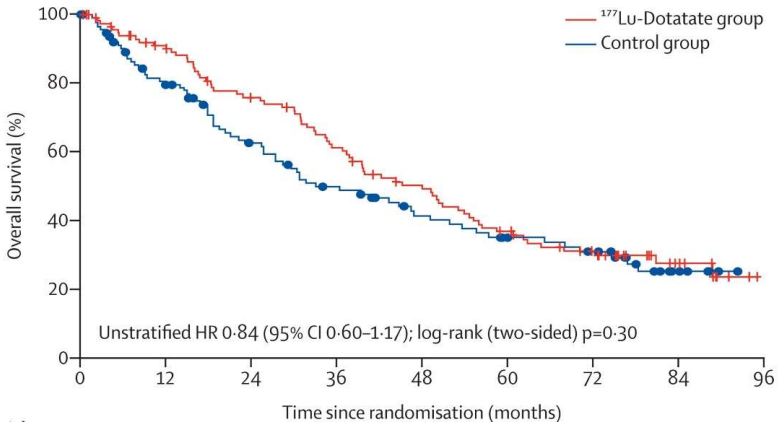
Significant unmet need:

- **~12K** new diagnoses annually in the US[1]
- **~175,000+** people are living with this diagnosis in the US[1]

Market Opportunity

- Projected to be $2.9 billion+ in 2029[2]
- Existing radiopharmaceutical treatment LUTATHERA® (Novartis) has an overall response rate (ORR) of **only 13–17%, and no overall survival (OS) benefit**[3]

NETTER-1 Study: Final overall survival[4]

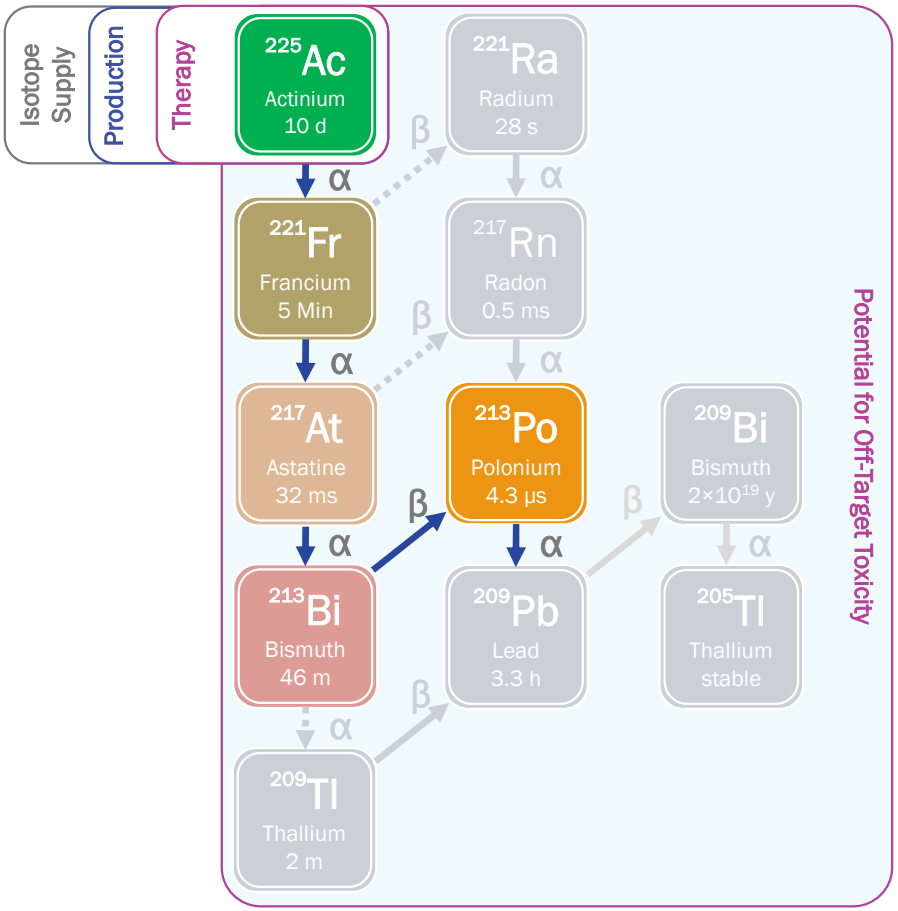


- Treatment depends on the type of tumor. Some approaches may include surgery, radiation, and chemotherapy
- Broad acknowledgment that targeted alpha therapies are needed to improve care[5]

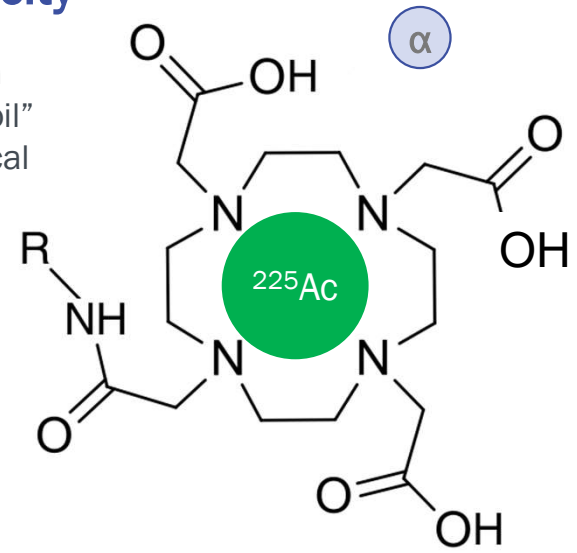
[1]cancer.net; ; [2]www.futuremarketinsights.com/reports/neuroendocrine-carcinoma-market; [3]LUTATHERA PI; [4]Strosberg et al (2021); [5]Navalkissoor et al (2019)

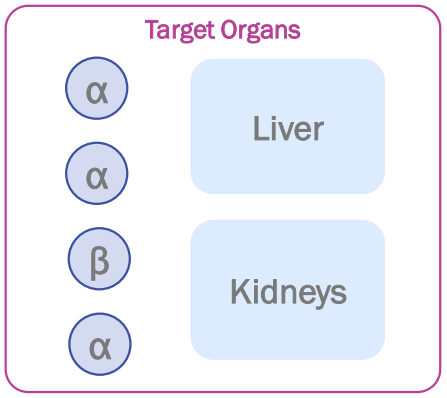
PERSPECTIVE THERAPEUTICS

^{225}Ac Isotope Decay Chain and Potential for Off-Target Toxicity



Alpha-particle emission imparts sufficient "recoil" energy to break chemical bonds

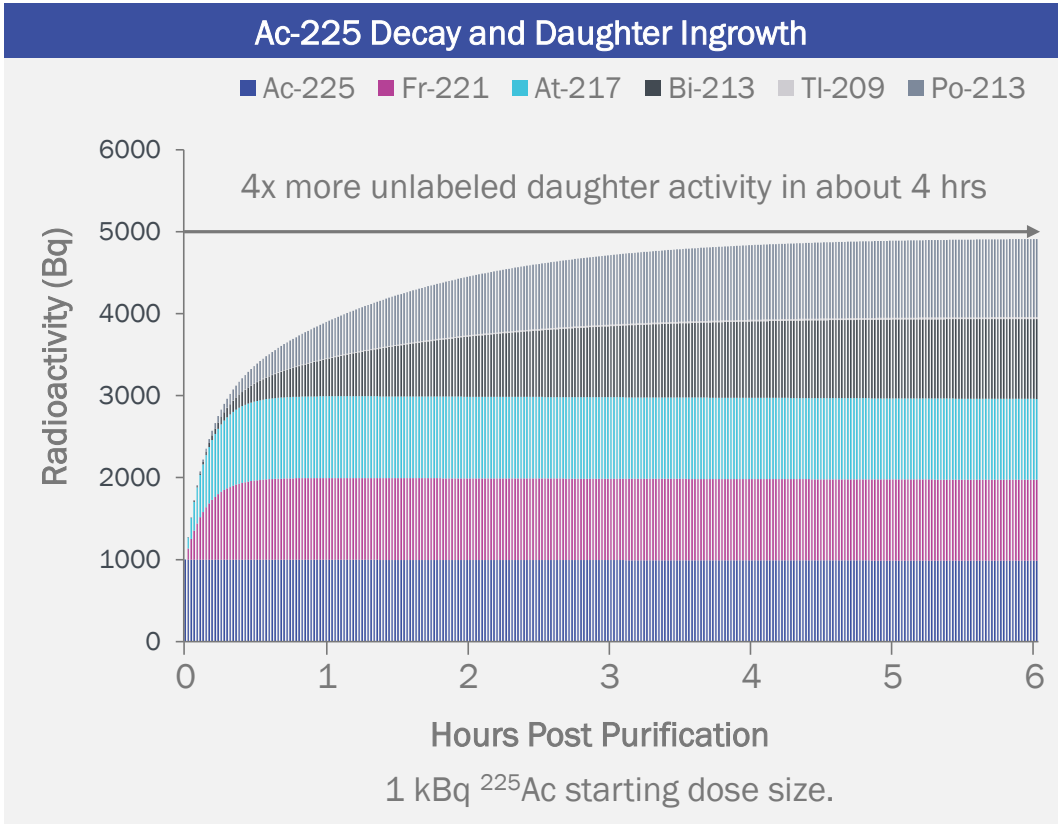


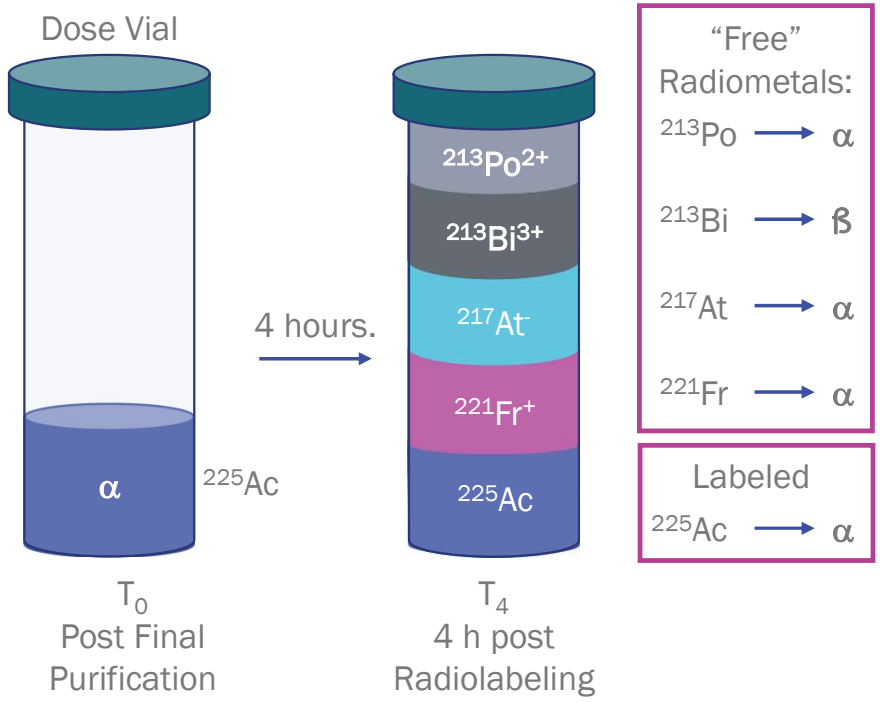


PERSPECTIVE THERAPEUTICS

Isotope: Decay chain – Product implications

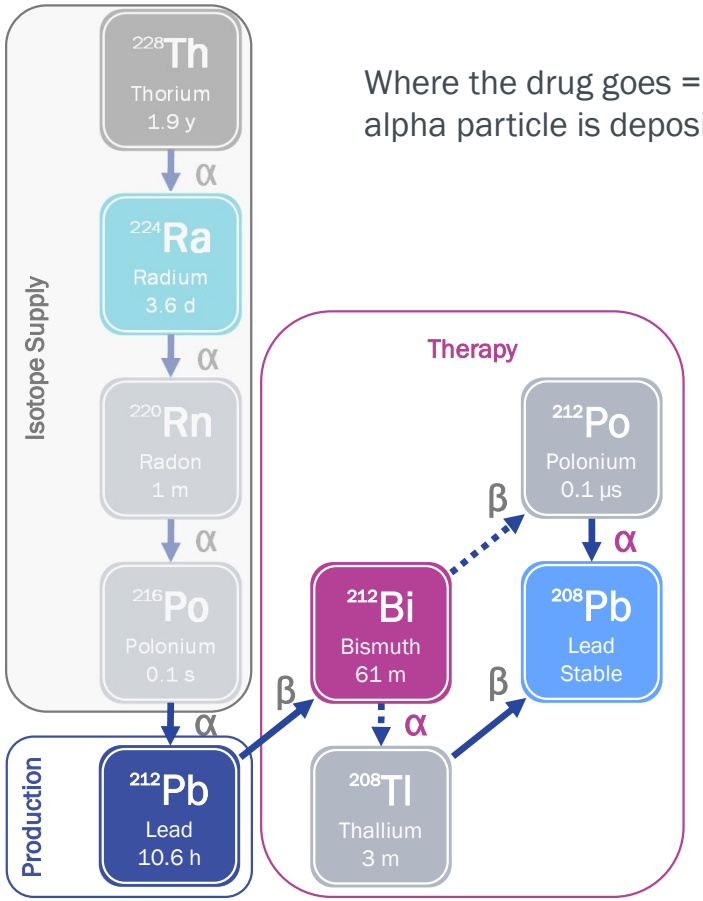
Post final radiolabeling and purification, alpha and beta emitting daughters of ^{225}Ac build up fast



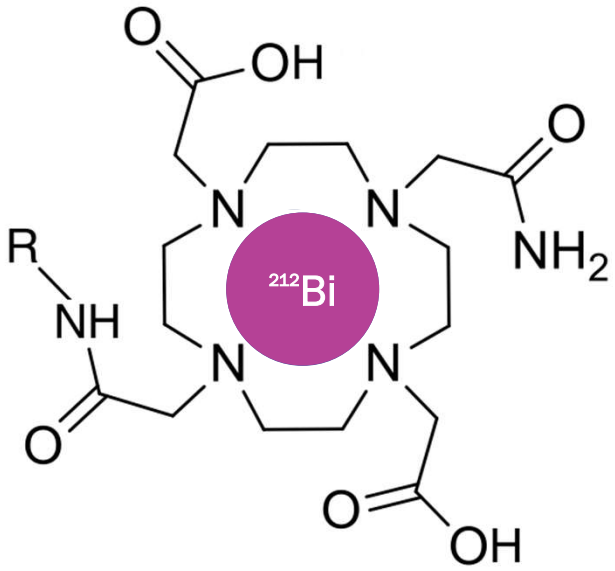


PERSPECTIVE THERAPEUTICS

^{212}Pb Isotope Decay Chain and Importance of the Pb-Specific Chelator



Where the drug goes = where the alpha particle is deposited



- Perspective's proprietary chelator retains 98% of ^{212}Bi after transition in drug formulation
- Generic chelators leak the ^{212}Bi alpha-emitting daughter up to 36%[1]

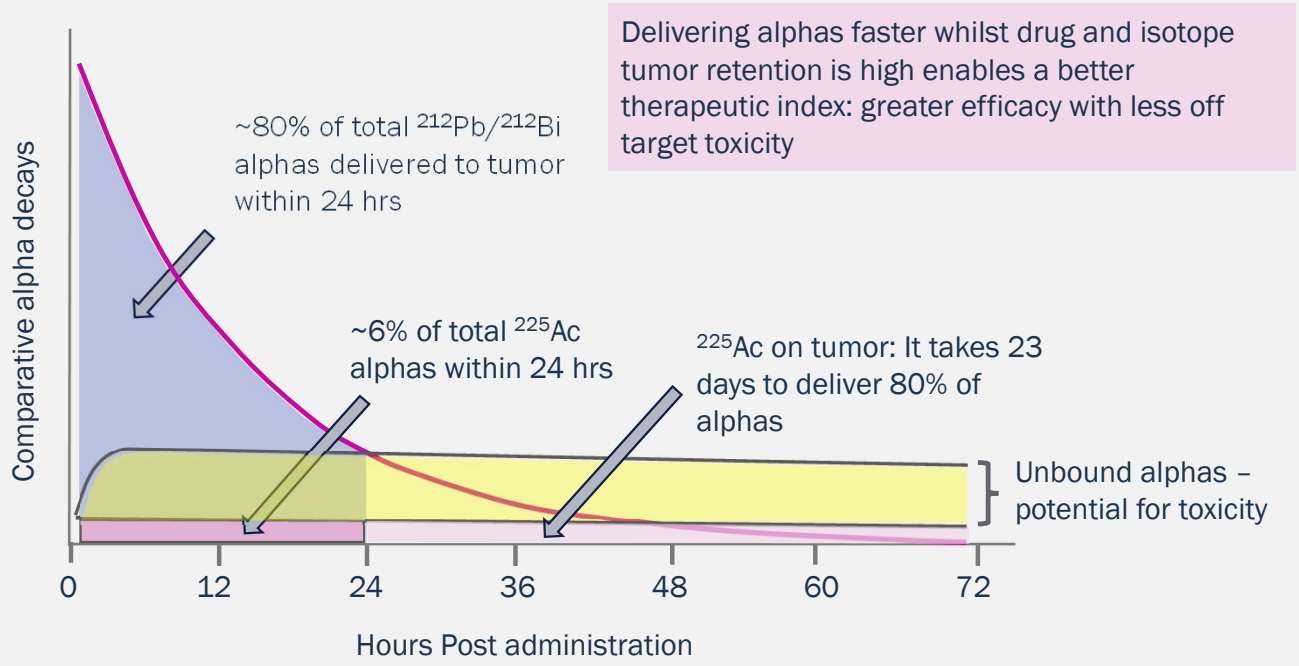
[1]Mirzadeh et al., Radiochimica Acta, 1993

PERSPECTIVE THERAPEUTICS

^{212}Pb Hits Tumors Hard and Fast and Disappears

^{212}Pb is a "high dose rate" alpha emitter with a short half life – energy is deposited rapidly to tumor and then gone

Comparative alpha Particle Decay Over Time[1]



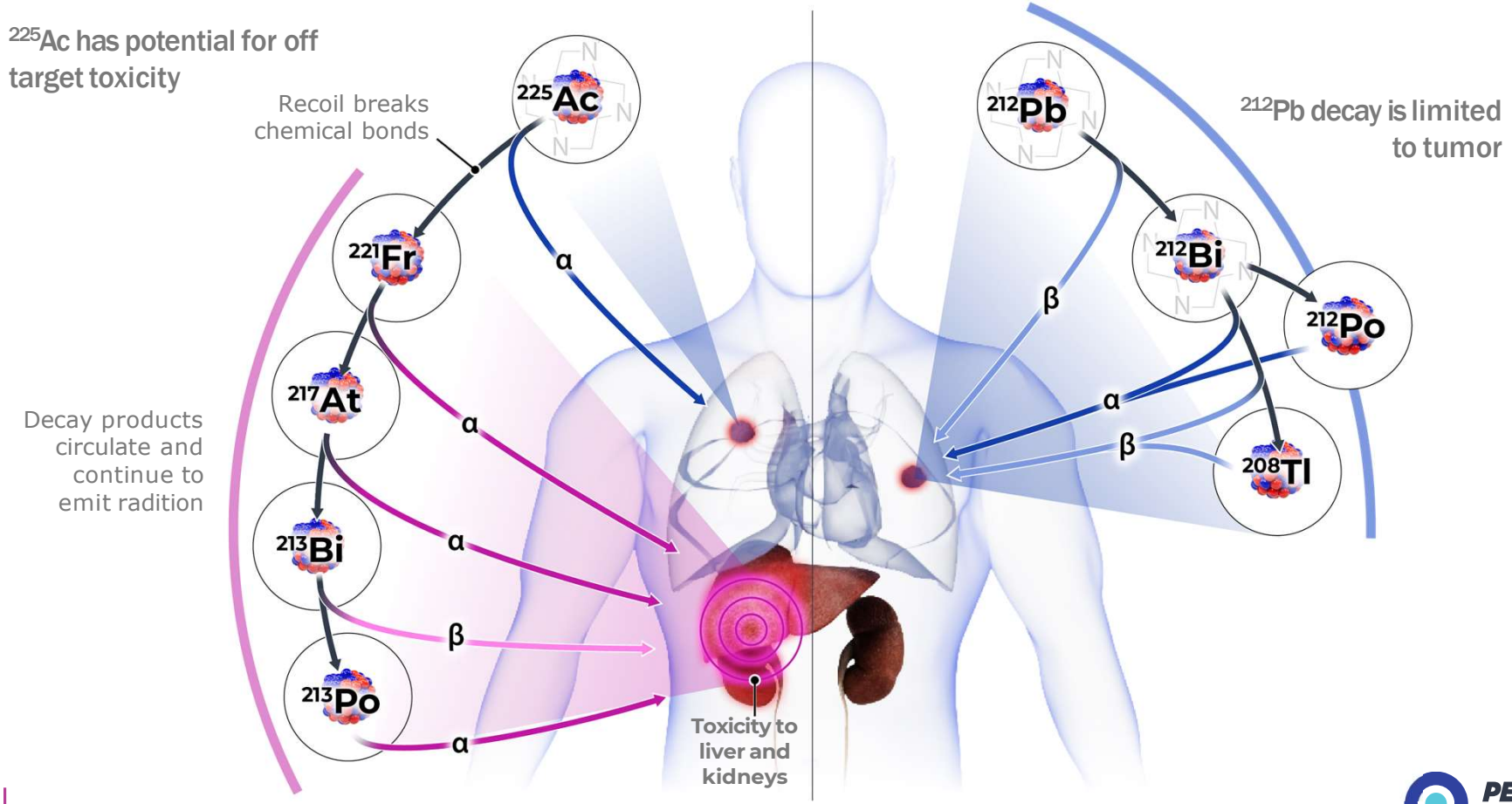
- "Activity" is measured in decays per second, so depends on isotope half-life
- ^{212}Pb will likely be administered at 20 times the ^{225}Ac activity
- ^{225}Ac is administered in smaller activities due to its 10 day half-life and the total alphas decays from its daughters
- Most drugs stay bound to tumor for only a limited time – this directly affects the amount of radiation that can be delivered
- The effectiveness of longer-lived isotopes therefore diminishes over time the alphas are also removed from the tumor

[1] Representative activity administrations only, based on clinical projections – company estimates

PERSPECTIVE THERAPEUTICS

Isotope: Decay chain – Biological Implications

Isotope selection drives potential for off target toxicities



PERSPECTIVE THERAPEUTICS

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Zachary Morris, MD, PhD

Professor of Radiation Oncology

Associate Professor, Department of Human Oncology
The University of Wisconsin – Madison, WI

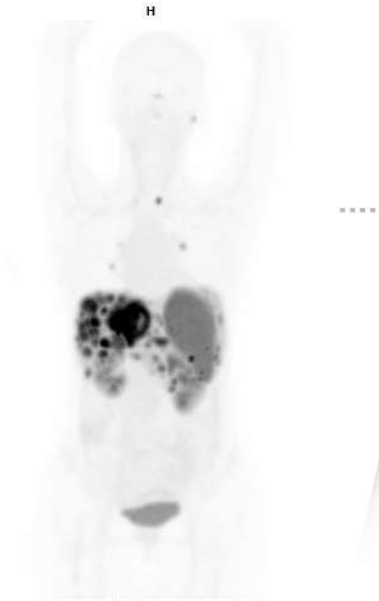
Appendix: VMT-α-NET

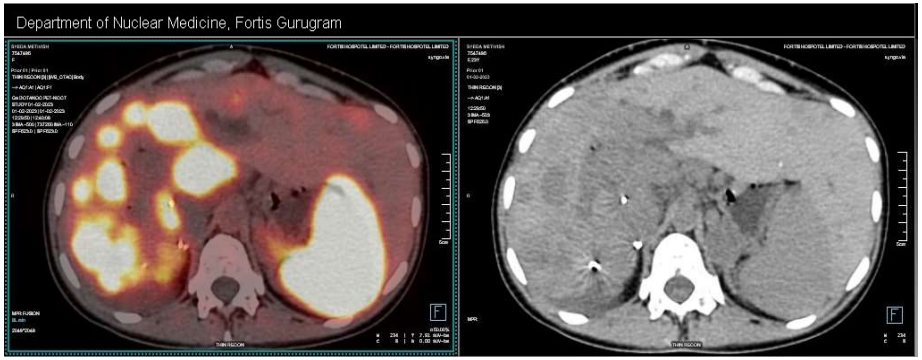
Additional Data from Clinical Investigation at Fortis Memorial Research Institute, Gurgaon, India

Significant Tumor Response After Two Doses

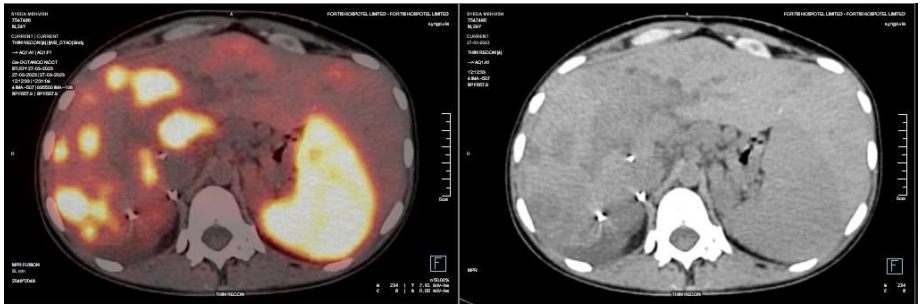
Patient 3: Metastatic NET Pancreas with Liver Metastases

MIP image Before Treatment



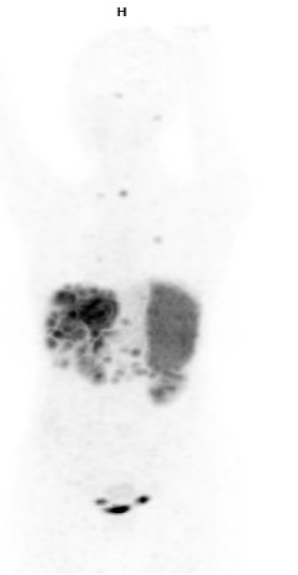


Liver Metastases before treatment



Liver Metastases after treatment with two doses

MIP image After 2nd Treatment



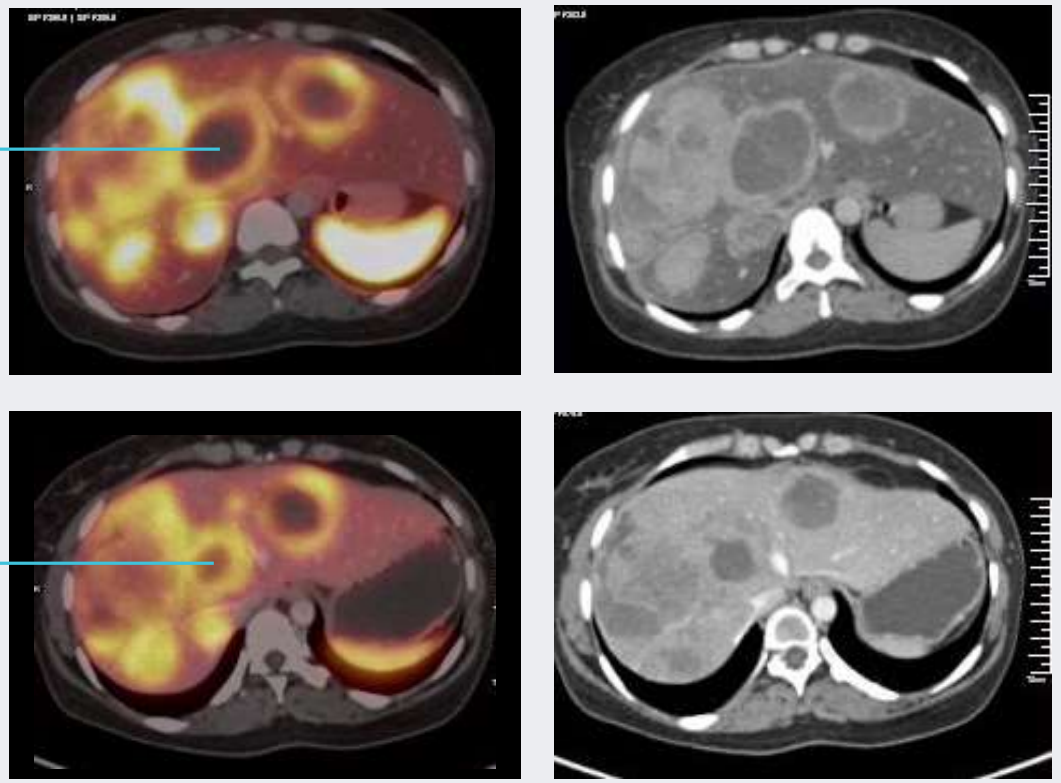
PERSPECTIVE THERAPEUTICS

Reduction in Size of Necrotic Masses After 2 Doses

Patient 5: Pancreatic NET

Tumor Before Treatment

Tumor After Treatment

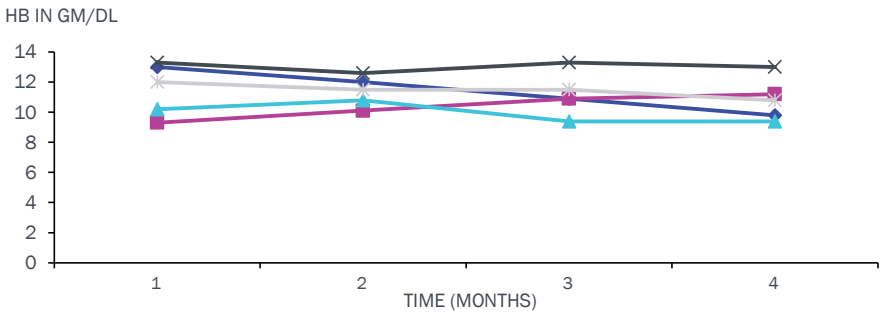


PERSPECTIVE THERAPEUTICS

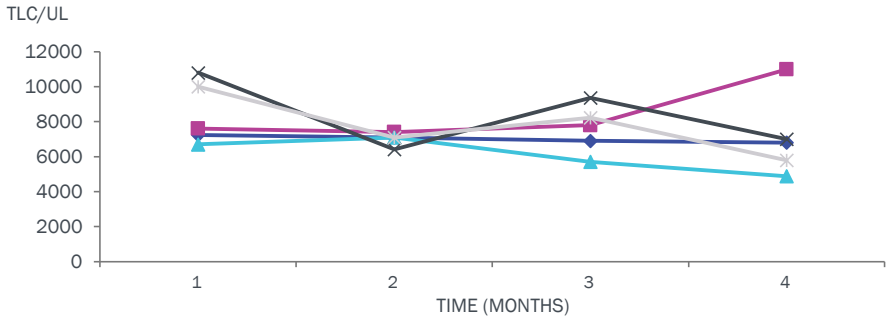
Favorable Safety and Tolerability Profile

Four Months Post-Treatment (5 Patients)

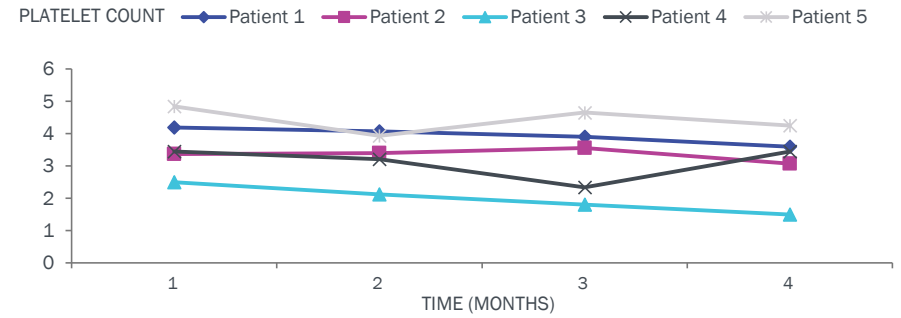
Hemoglobin Levels



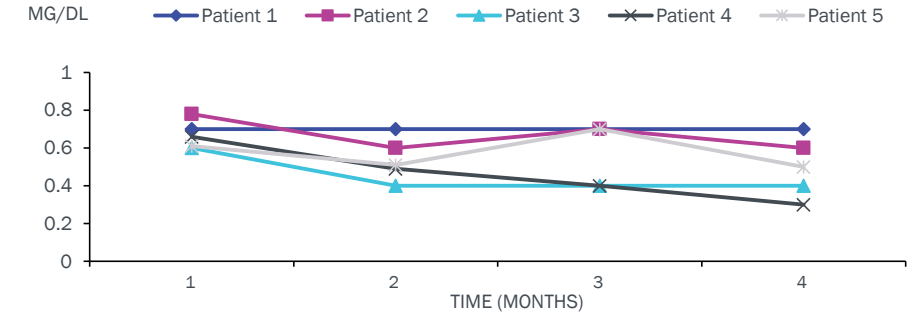
Total Leukocyte Count



Platelet Counts



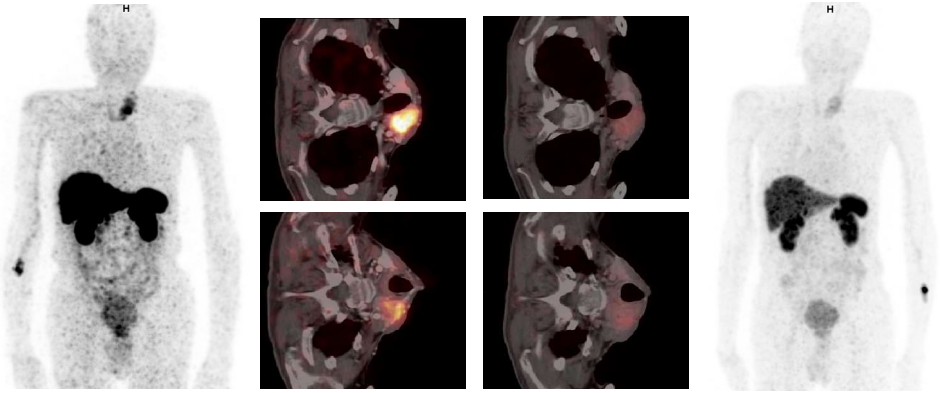
Serum Creatinine



PERSPECTIVE THERAPEUTICS

Serious Adverse Event in Patient 2

Myelodysplastic syndrome (MDS) Unrelated to Study Drug



Pre-Therapy

Post-Therapy

Patient Profile

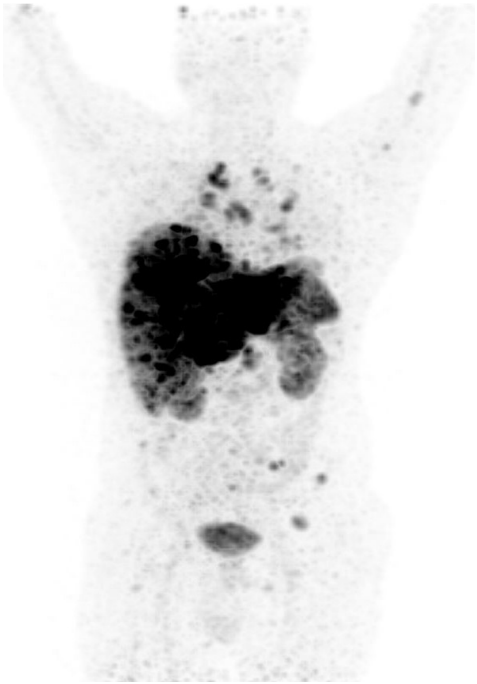
- 79 year-male
- Metastatic Medullary Carcinoma thyroid
- Disease progression of TKI's
- Received total 3 doses of [^{212}Pb]VMT-α-NET therapy at an interval of 8 weeks (Cumulative dose 9.6 mCi)
- Shows Partial response for disease till date.
- **Developed MDS on routine blood investigations**
- **Found positive for BCR-ABL gene**

No causal relationship could be established

PERSPECTIVE THERAPEUTICS

Serious Adverse Event in Patient 6

Acute Cardiac Event Unrelated to Study Drug



Significant tumor burden

Patient Profile

- 25 year-male
- Metastatic NET-pancreas
- **Long-standing disease** (>6 years duration)
- **Heavily pre-treated** with Inj. Sandostatin and 4 cycles of ^{177}Lu-DOTATATE along with CAPTEM regimen
- **Received 1 dose of [^{212}Pb]VMT-α-NET therapy (3.5 mCi)**
- **Acute Cardiac Event** (Possible Carcinoid Heart Syndrome)
- Significant Tumor Burden - Possible Disease Progression

No causal relationship could be established

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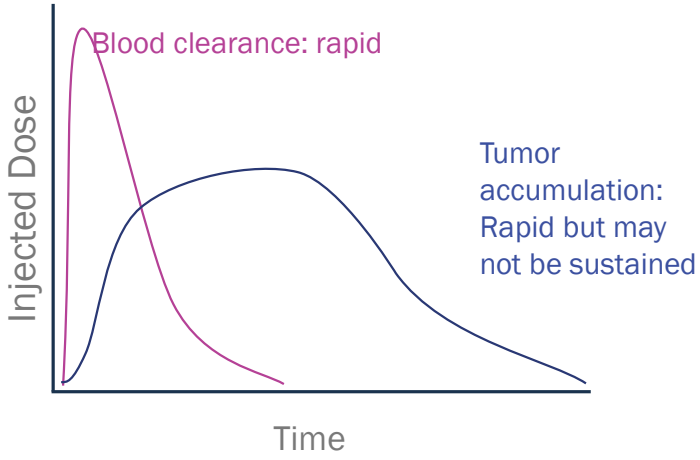
Appendix: Preclinical Programs: Pre-targeting Platform

Pre-targeting Rationale: Current Radiopharmaceutical State of the Art

Peptide-based radiopharmaceuticals are the most successful commercial radioligand products

- Peptide and peptide-like small molecules
- Rely on fast clearance from the body to reduce radiation dose to non-target tissues
- Typically clear through the kidneys
- Sometimes tumor retention is an issue
- Less suitable for long-lived isotopes
- Examples: LUTATHERA®, PLUVICTO®, VMT01, VMT-α-NET etc

Peptide & Small Molecule Kinetics



Peptides are the perfect targeting vectors for high dose-rate isotopes such as ^{212}Pb, as the biological and radiation half-lives are matched

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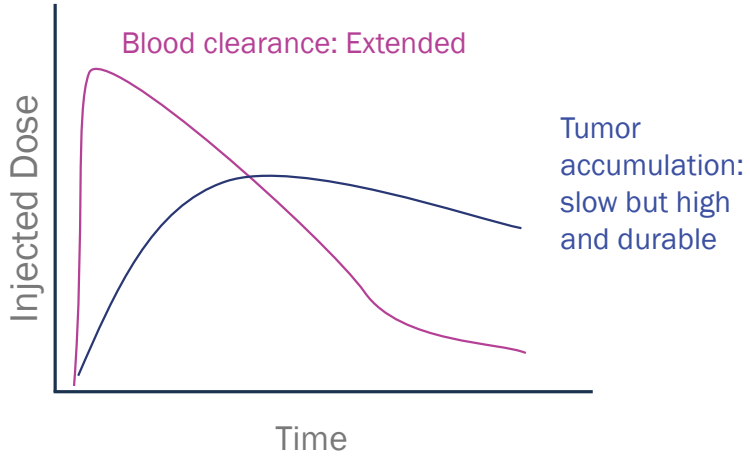
Pre-targeting Rationale: mAbs Have Significant Role in Cancer Therapy

Antibody Drug Conjugates (ADCs) are a successful high-growth product class but mAbs are not ideal radiopharmaceuticals

- FDA has approved over 100 mAbs: 9 of the top 20 therapeutic products worldwide with more than $75 billion in sales (2021)[1]
- ADCs are commercially successful (current market size approx $10 billion[2]) but some safety issues with Blackbox warnings[3]
- Success of mAbs as vectors to target radiation has been limited (BEXXAR®, Zevalin®)[4]
- Long circulation times increase off-target radiation toxicity to marrow and healthy organs compared to peptides or small molecules[5]
- Tumor accumulation can be very high and retention long
- Very long list of targets for mAbs available

mAb Kinetics



Antibodies and antibody fragments have high and specific tumor uptake but clear slowly so are not ideal radiopharmaceuticals

[1]Mullard, Nat Rev Drug Discovery 2021; [2]www.marketsandmarkets.com/Market-Reports/antibody-drug-conjugates-market-122857391.html; [3]Nguyen et al, Cancers, 2023; [4]www.nytimes.com/2007/07/14/health/14lymphoma.html; [5]Rondon et al, Cancers, 2021

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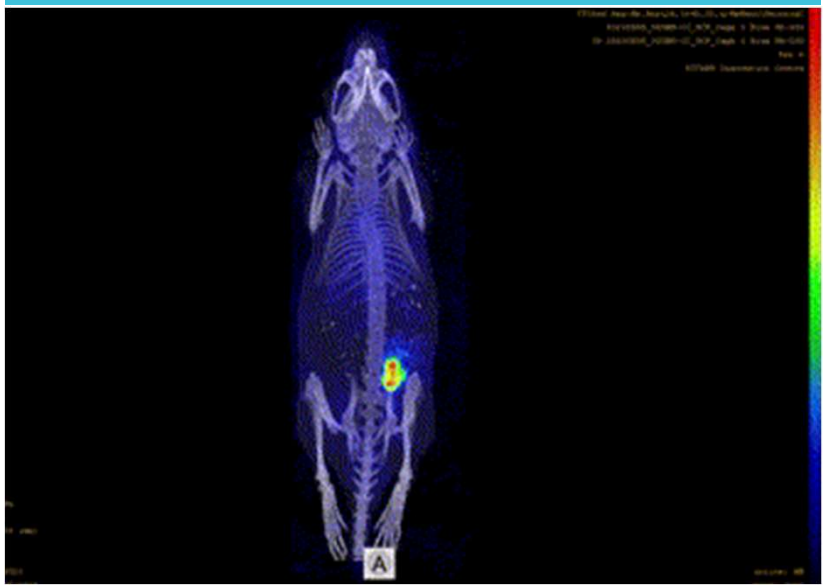
Specificity of mAbs: [^{203}Pb]mAb SPECT Imaging Preclinical Example

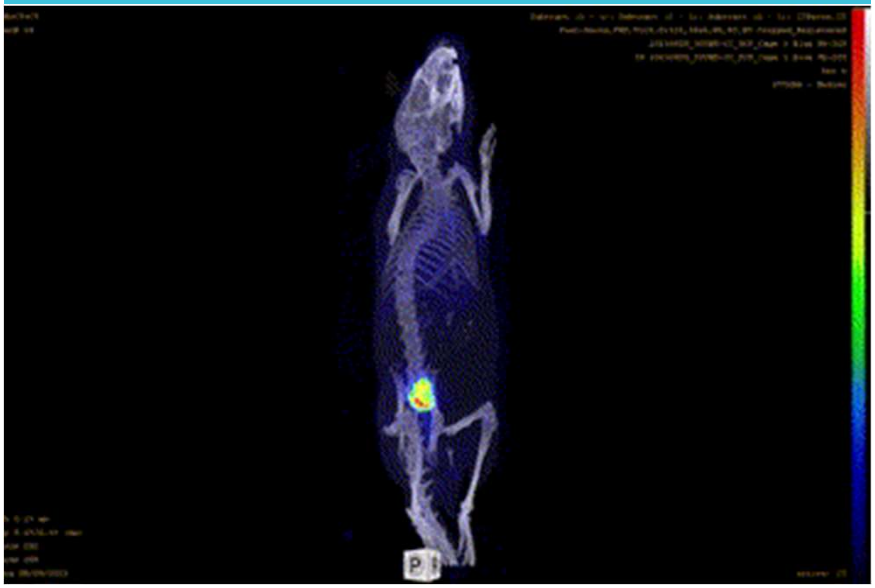
48 hours post- injection



Observations

- Precise tumor targeting
- Accumulation over days
- Residual radiation clears
- High-resolution image

120 hours post- injection



Question?

Is it possible to exploit the tumor targeting and uptake of mAbs, but retain the rapid clearance properties of peptides and small molecules?

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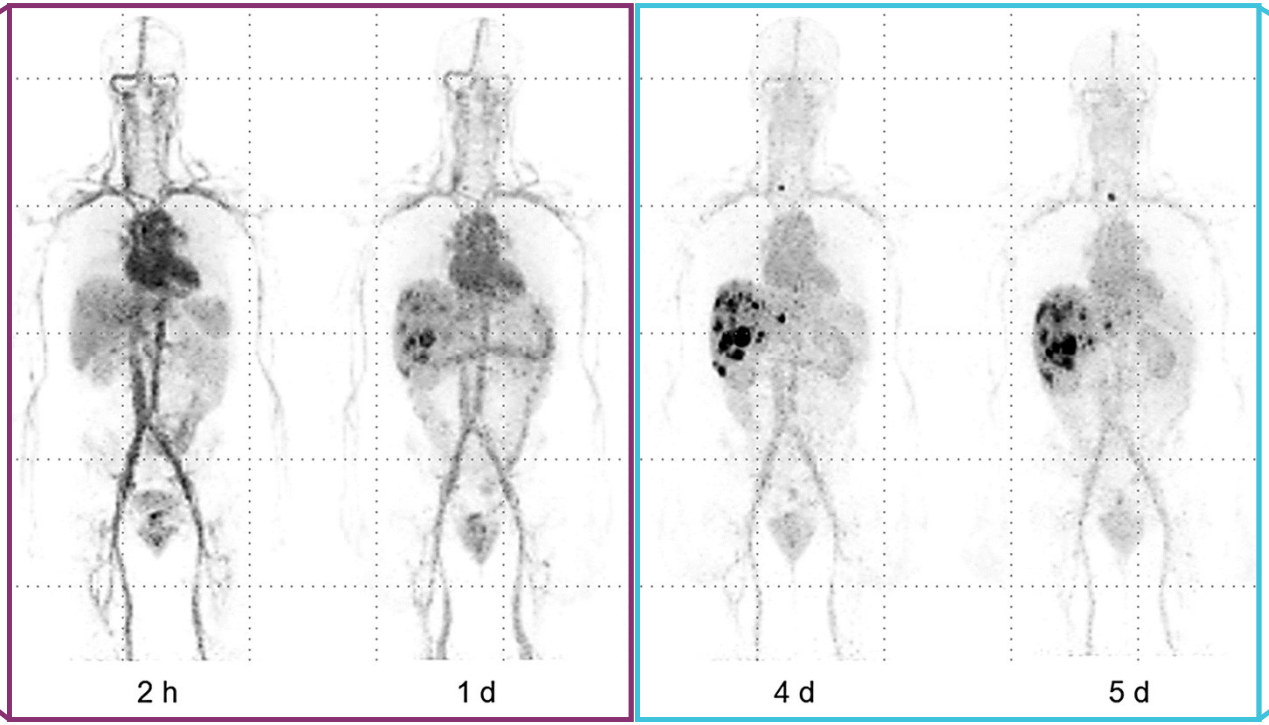
Biokinetic Properties of mAbs are Ideal for Accumulation on Target

Representative imaging across longer time frame demonstrates clearance and uptake kinetics

Patient with HER2 positive esophagogastric adenocarcinoma metastatic to liver, imaged with [^{89}Zr]trastuzumab[1]

Long circulation time with little tumor uptake for the first 24 h



High accumulation of mAb onto tumor with clearance from blood pool

[1]O'Donoghue et al. J Nucl Med 2018

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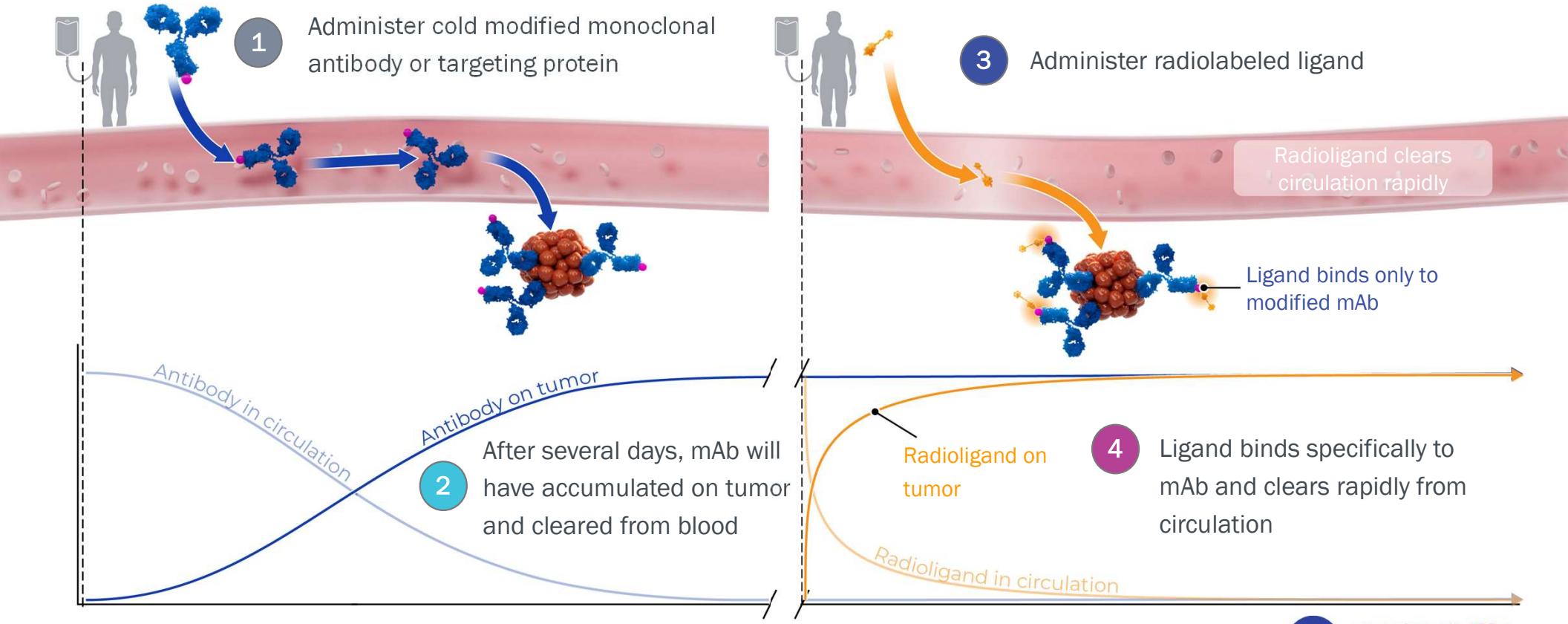
Pre-Targeting Platform Background

Relies on the different kinetics of large proteins and small molecules and a multi-step process



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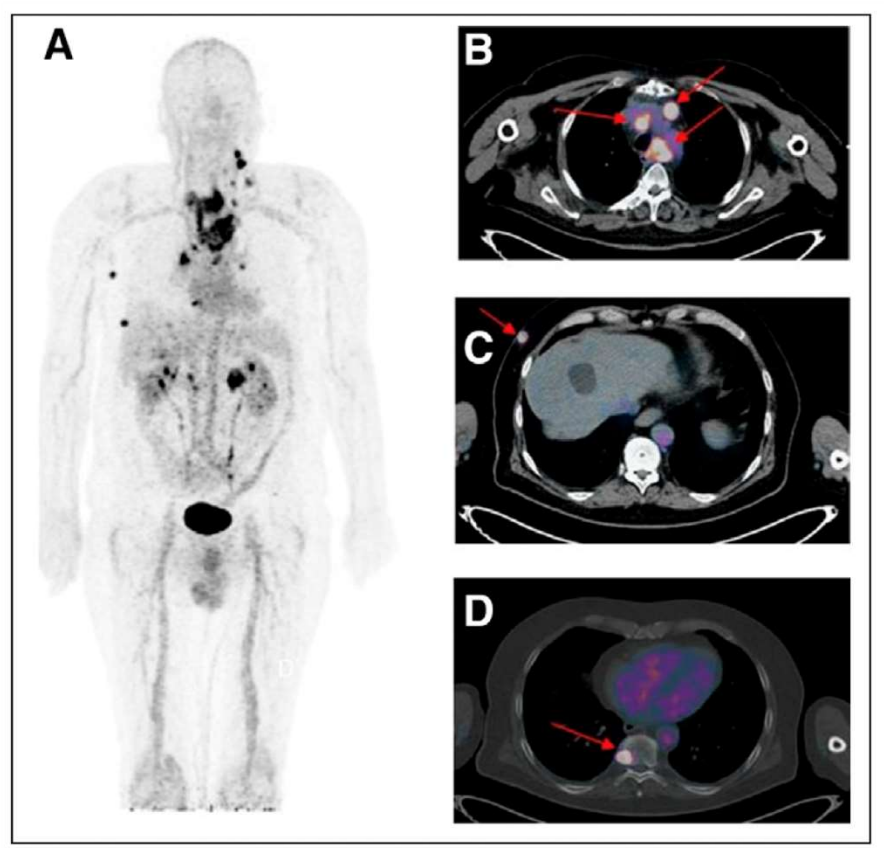
Promise of Pre-Targeted Approach – Clinical Data

^{68}Ga-IMP288 – Images ≥ 24 hours following Anti-CEA Bispecific mAb[1]



Immuno-PET/CT with anti-CEA BsmAb and ^{68}Ga-IMP288 peptide showing pathological lesions with heterogeneous SUV_{max} ranging from 3.0 to 20.1

Maximum-intensity-projection (MIP) image (A) showed several pathological lesions

On the fusion axial images, arrows located mediastinal nodes (B), subcutaneous lesions (C), and bone metastasis (D)

Compelling Proof of Concept for pretargeting, but this system lacks broad "modularity"

[1]Bodet-Milin et al., JNM 2021

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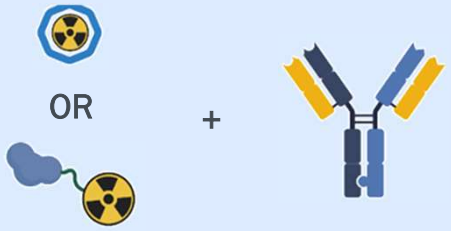
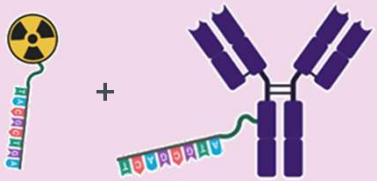
State of the Art in Pre-Targeting for Radiopharmaceuticals

Review of current state of the art technology platforms

	Clinically Evaluated (Phase I / II)	Preclinically Evaluated only
Not Modular	**A. Bispecific Antibody – Hapten (eg SADA)** 	**C. Oligonucleotide Hybridization** 
	B. Streptavidin - Biotin 	**D. Click Chemistry** 
	Immunogenic	Unstable

Current state of the art

- Four platforms reported prior to 2021
- 3 of 4 have been promising preclinically
- All face specific hurdles for widespread clinical use:
  - A. Lack of "modularity“
  - B. Immunogenicity
  - C. Poor tumor uptake
  - D. Stability
- Common hurdle = use of clearing agents

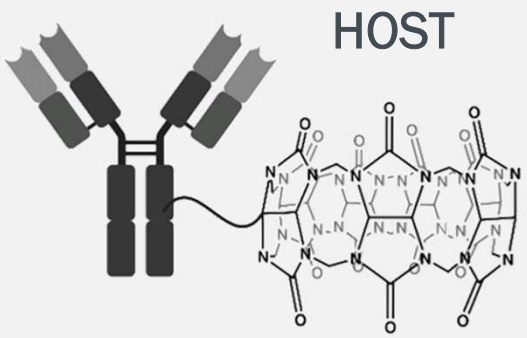
Renaissance School of Medicine
Stony Brook University

PERSPECTIVE THERAPEUTICS

Jallinoja *et al. J Nucl Med.* **2021.**

Perspective Pre-Targeting Platform: Host - Guest Chemistry

After exhaustive review of State of the Art, Perspective chose CB7 (Host) - Adamantane (Guest) System



Cucurbit[7]uril (CB7) modified antibody (mAb)

First synthesized 1905 (Behrend, Germany)
Structure described analytically 1981
Named after the pumpkin family Cucurbitacea

+

An ideal pretargeting agent:

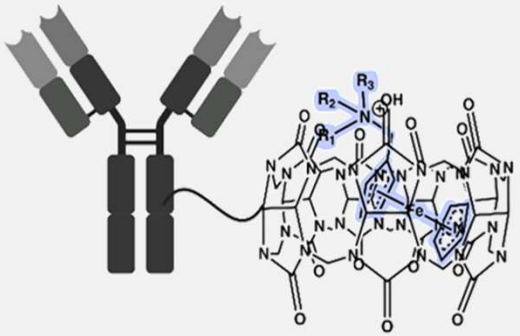
High *in vivo* stability

Modular

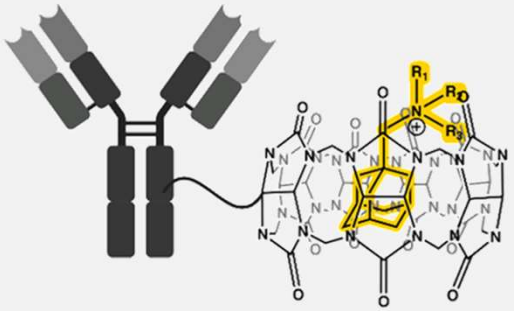
Non-toxic

Non-immunogenic

No need for a clearing agent



OR



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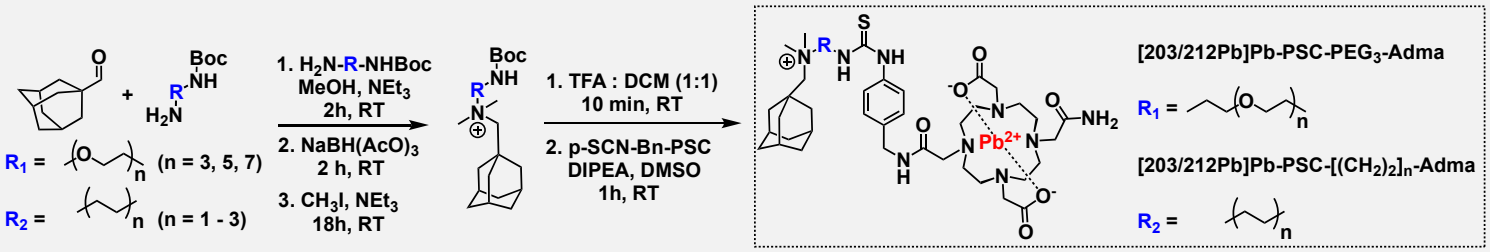
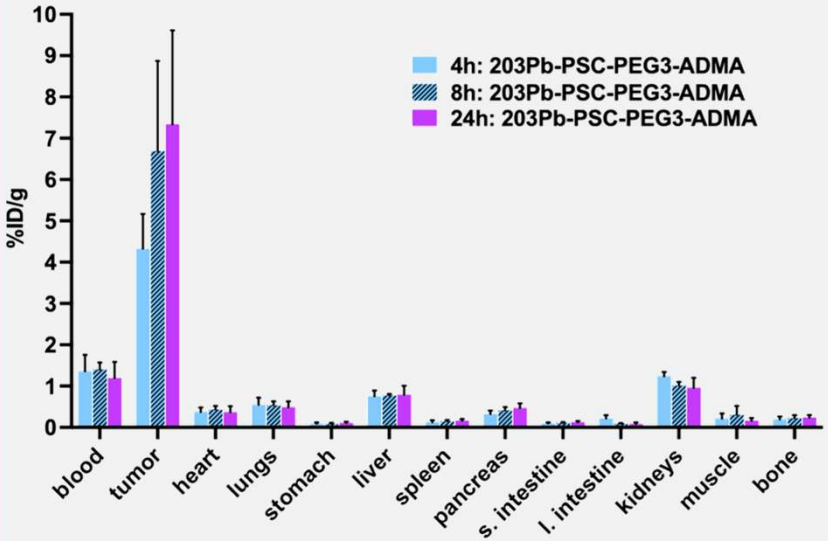
Perspective Pre-Targeting Platform: Host - Guest Chemistry and in vivo Experiment

Synthesized the Guest as an adamantane-PEG3-PSC (Perspective's proprietary chelator)





First in vivo Experiment: Observations

- 6-day lag time demonstrates stability of the CB7
- Terrific Tumor:Normal ratios
- Very low kidney/liver retention
- High tumor targeting
- Blood clearance of the radioligand a little slow
- System optimization underway

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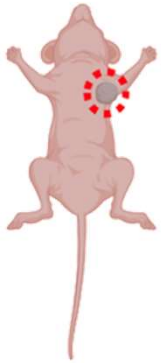
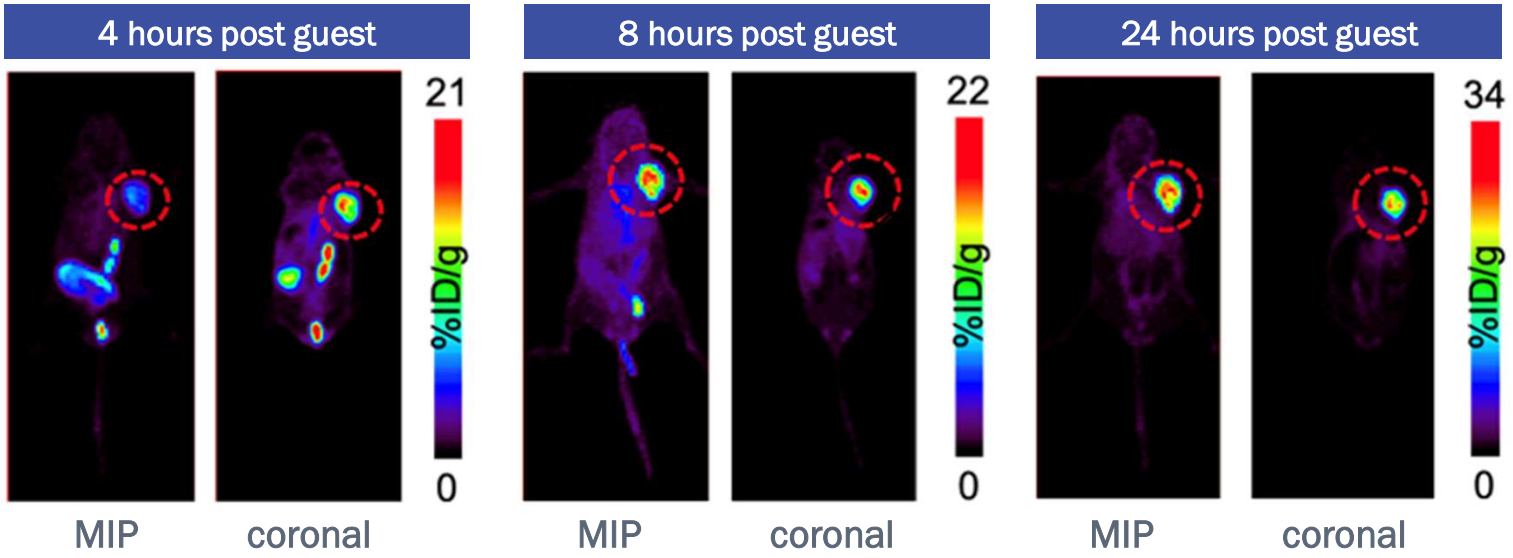
Perspective Pre-Targeting Platform: Host - Guest Chemistry in vivo Imaging Experiment

Representative images of ligand during optimization process

- Host is a mAb targeting Carcinoembryonic Antigen (CEA)
- Guest is an adamantane-PEG3-NOTA labeled with ^{64}Cu
- 72 h lag time post Host administration





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Perspective Pre-Targeting Platform: Significant Opportunity to Expand into "ADC" space

Vast number of mAb targets and ligands available to exploit

Expansive Range of Targets Available

- **Bosi et al., EJ Cancer 2023**
  - 54 distinct cell surface targets
- **Li et al., Cancers, 2022**
  - 371 target membrane protein-coding genes
- **Subbiah, Curr. Probl. Cancer, 2021**
  - 13 ADC targets – compared to radiopharmaceuticals

Many mAbs with Clinical Data

- Vast number of mAbs that are humanized and have been in human clinical trials
- Many have failed as Antibody Drug Conjugates and unmodified ligand may be available for licensing
- These mAbs bind in general with high affinity and specificity to their tumor targets
- Opportunity to significantly increase potency of these molecules

Perspective's Best in Class pre-targeting platform has the potential to transform a large range of existing molecules and targets into "radio-ADCs" with superior efficacy and reduced toxicity

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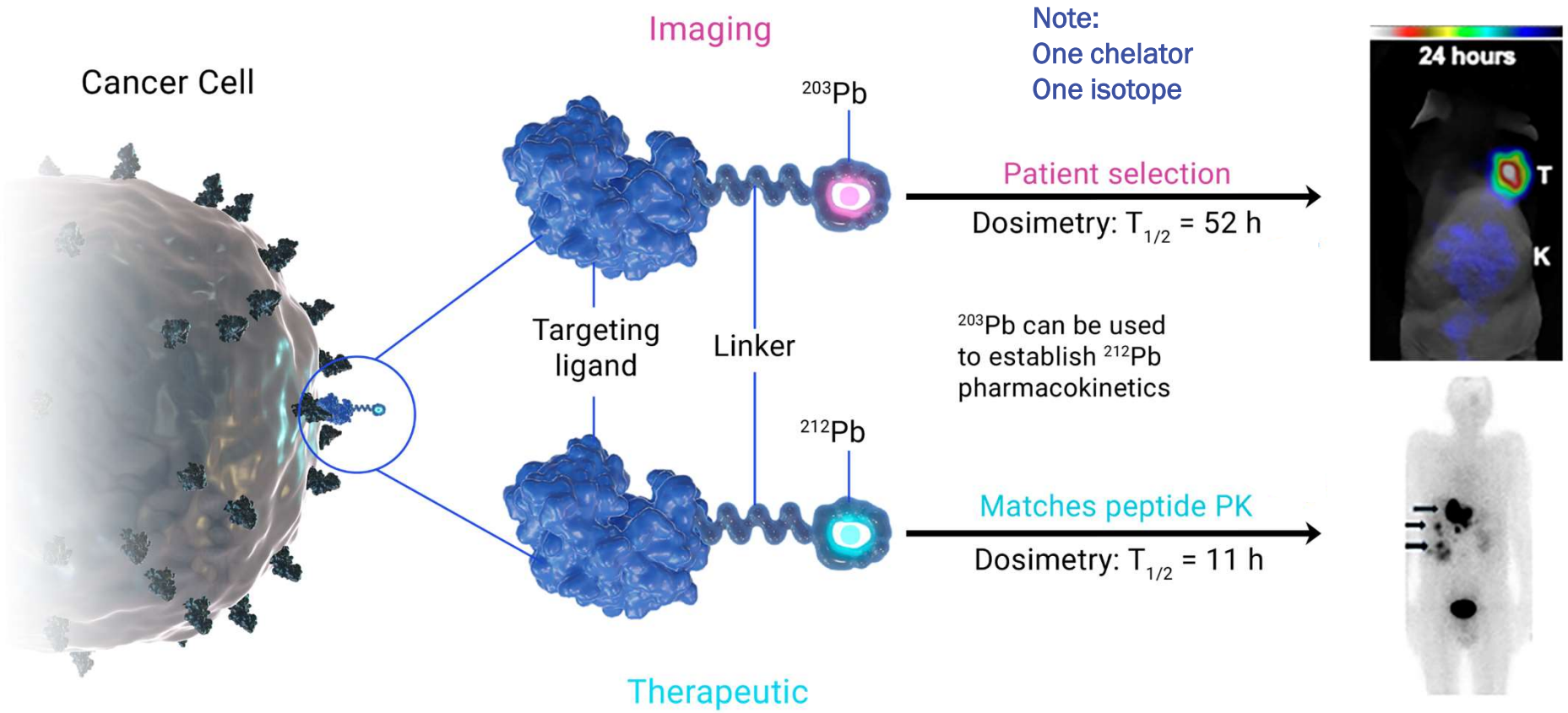
Appendix: Prostate Cancer Program – PSV40X

Typical Theranostic Approach : One Molecule, One Chelator, One Isotope

Separate But Chemically Identical Molecules Labeled with Either ^{203}Pb or ^{212}Pb for Imaging and Treatment, Respectively



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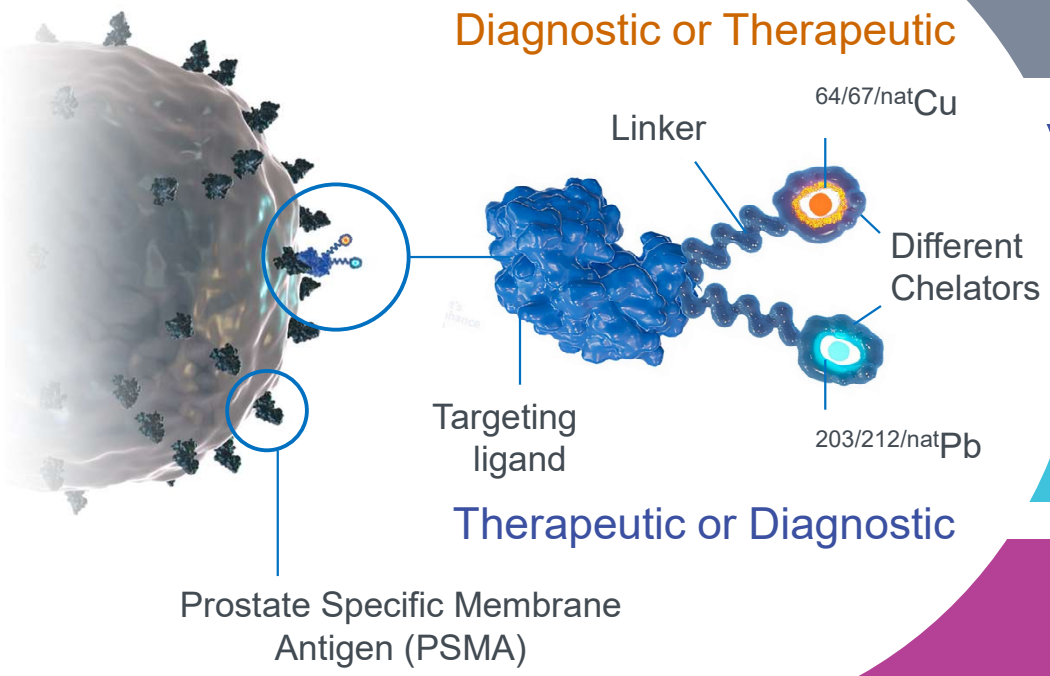
PSV401 DoubLET[1,2]: One Molecule, Two Chelators, Four Possible Isotopes

One Molecule Labelled with Two Elements at Once, with Isotope Selection Determining Diagnostic or Therapeutic



Two chelators on one targeting ligand
Each can be labeled with stable or radioactive atoms

Enables the same molecular entity to treat with lead-212 (^{212}Pb) and image by PET with Copper-64 (^{64}Cu)

Co-labeled with non-radioactive Pb provides identical biodistribution, allowing reliable dosimetry using ^{64}Cu

Technology Licensed from Mayo Clinic January 2024[1]
IND-enabling studies underway
First in Human data expected in 2024

[1]PSV401 is also known in the literature/Mayo documentation as NSN24901 or AlphaPET-PSMA01. 2. DoubLET trademark and patent pending

PERSPECTIVE THERAPEUTICS

PSV401 Has Potential to be "Best-In-Class" Prostate Cancer Targeted Alpha Therapy

Current Standard of Care with Beta-Based Radiopharmaceutical Therapy (RPT) Still Requires Improvement

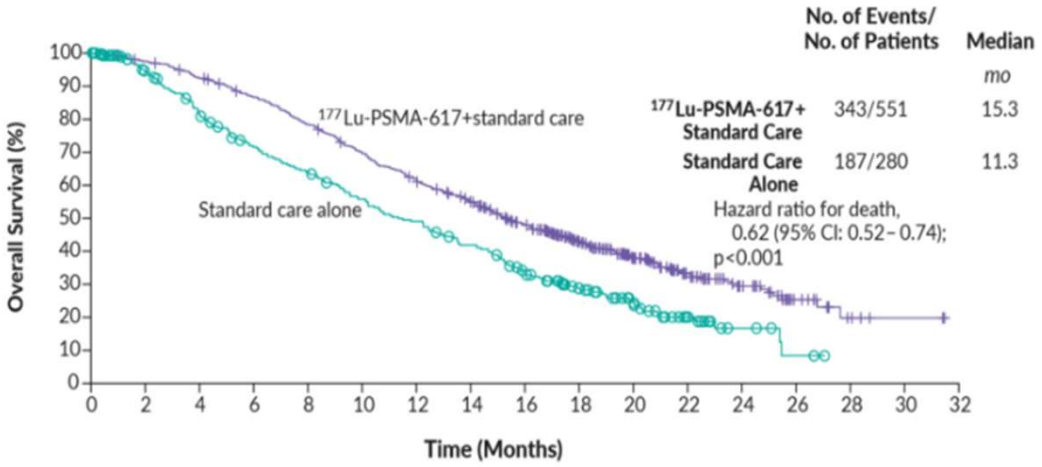
Significant Unmet Need:

- **~288K** new diagnoses annually in the US[1]
- **~3.3M+** men living with this diagnosis in the US[1]
- **~35K** deaths annually in the US[1]

Market Opportunity:

- Projected to be $27.5 billion+ in 2032[2]
- Existing radiopharmaceutical treatment PLUVICTO® (Novartis) has an overall response rate (ORR) of **30%, and an overall survival (OS) benefit of 4 months**[3]
- PLUVICTO® expected to reach sales ($1B plus) in only 2nd year on market[4]

VISION Study: Overall survival[5]



- Treatment depends on the stage of tumor. Typical approaches include surgery, radiation, chemotherapy and androgen-deprivation therapy
- Broad acknowledgment that targeted alpha therapies are needed to improve care[6]
- Salivary gland toxicity (xerostomia) is a common adverse side effect of PSMA targeted RPT (≅ 40%) and negatively impacts quality of life[7]

[1]www.cancer.org/cancer/types/prostate-cancer/about/key-statistics.html; [2]www.precedenceresearch.com/prostate-cancer-market; [3]PLUVICTO PI; [4]Novartis AG Q3 2023 Earnings Call Transcript [5]Sartor et al (2021); [6]www.urotoday.com/clinical-trials/from-the-editor/142064-targeted-alpha-therapy-for-prostate-cancer-the-next-generation-of-alpha-emitting-radiopharmaceuticals.html; [7]Langbein et al (2022)

PERSPECTIVE THERAPEUTICS

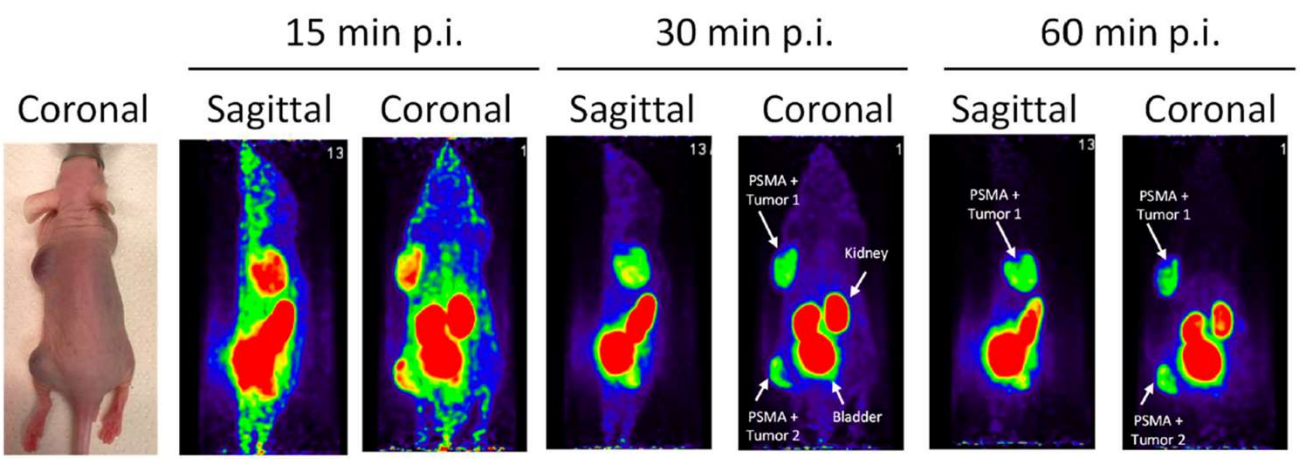
PSV401: Preclinical ^{64}Cu PET Imaging Data Showing Tumor Uptake

Rapid Tumor Uptake and Effective Renal Clearance with Radioactive Imaging Isotope [1]

Key Takeaways

PSMA+ LNCaP tumor model suggests [^{64}Cu]PSV401 targets tumor rapidly – suitable for diagnostic or treatment monitoring

Imaging product also indicates effective renal clearance and no other dose-limiting organs, essential for targeted alpha particle therapy



[1]Johnson et al., RPT Interest Group June 7 2023 https://rrp.cancer.gov/working_groups/AlphaPET-RPT_Int_group_lecture.pdf

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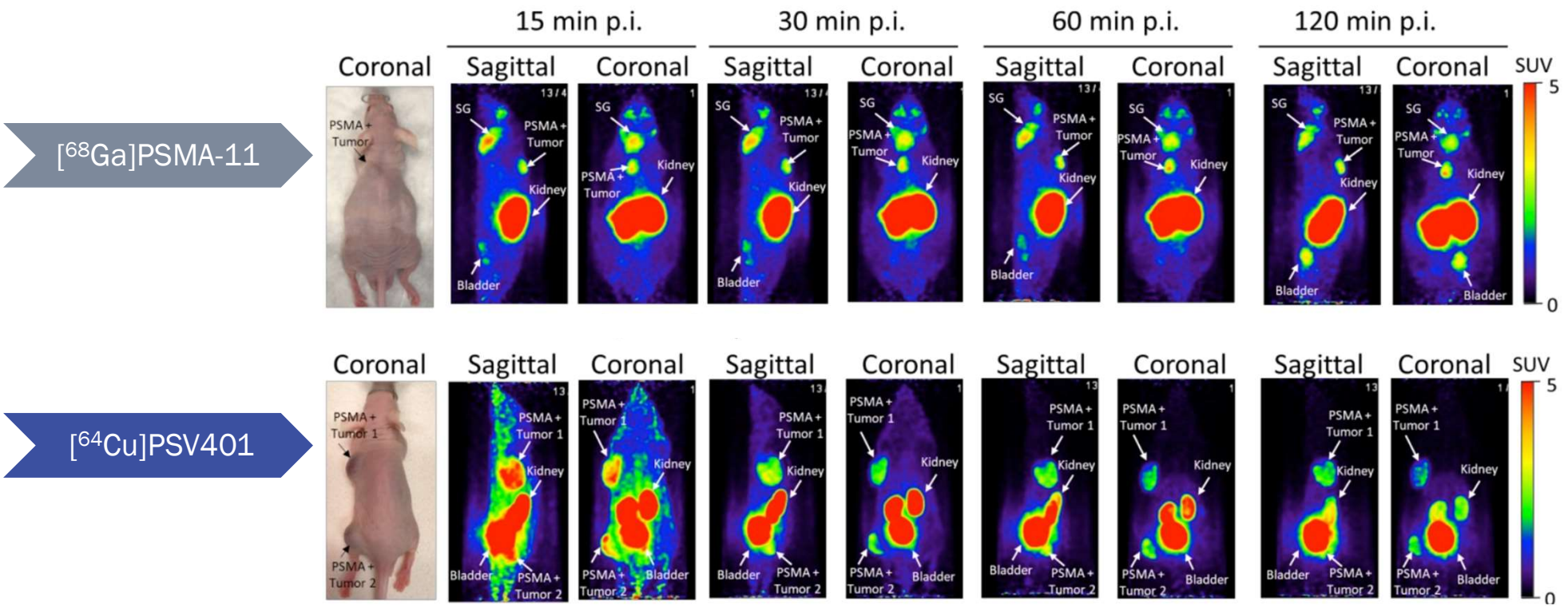
PSV401: Preclinical Comparison to Industry Standard[1]

[^{64}Cu]PSV401 Compares Favorably to FDA-Approved Imaging Agent [^{68}Ga]PSMA-11 (ILLUCCIX®, Telix)[2]



Note absence of salivary gland (SG) uptake with PSV401

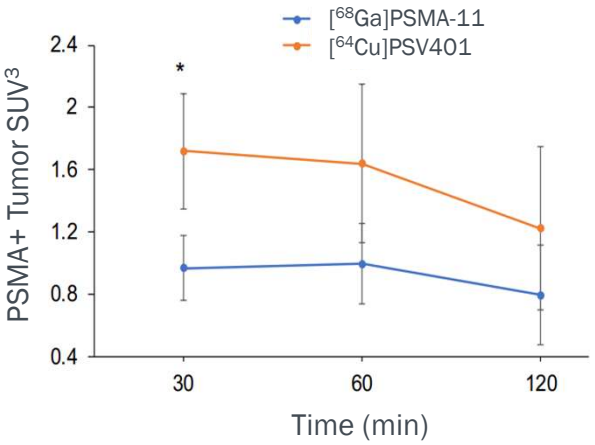
[1]LNCaP tumor athymic nude mice [2]Johnson et al., RPT Interest Group June 7 2023 https://rrp.cancer.gov/working_groups/AlphaPET-RPT_Int_group_lecture.pdf

PERSPECTIVE THERAPEUTICS

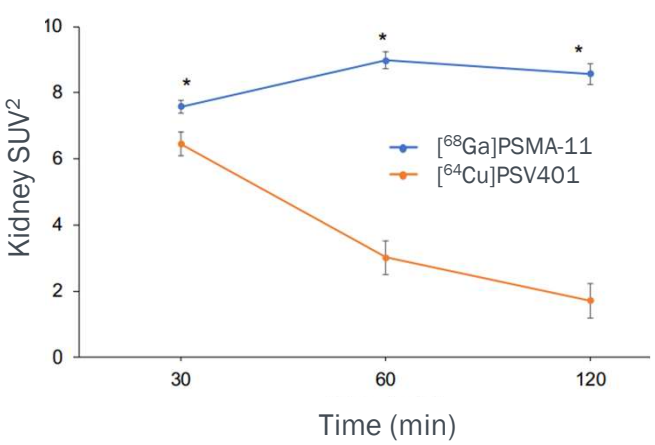
PSV401: Preclinical Comparison to Industry Standard

[^{64}Cu]PSV401 Significantly[1] Improved Uptake/Clearance Compared to [^{68}Ga]PSMA-11[2]

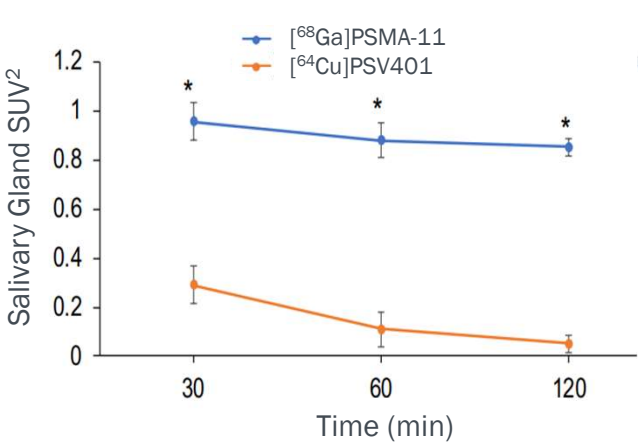
Tumor Retention



Kidney Retention



Salivary Gland Retention



Key Differentiation to Competitors

- Higher tumor accumulation/retention
- Significantly lower salivary gland uptake and retention
- Significantly lower kidney accumulation and retention

Larger therapeutic window (greater efficacy and reduced toxicity)

[1]* indicates $p < 0.05$ [^{64}Cu]PSV401 vs [^{68}Ga]PSMA-11 (all data sets as indicated) [2]Johnson et al., RPT Interest Group June 7 2023 https://rrp.cancer.gov/working_groups/AlphaPET-RPT_Int_group_lecture.pdf; [3]SUV = Standardized Uptake Variable

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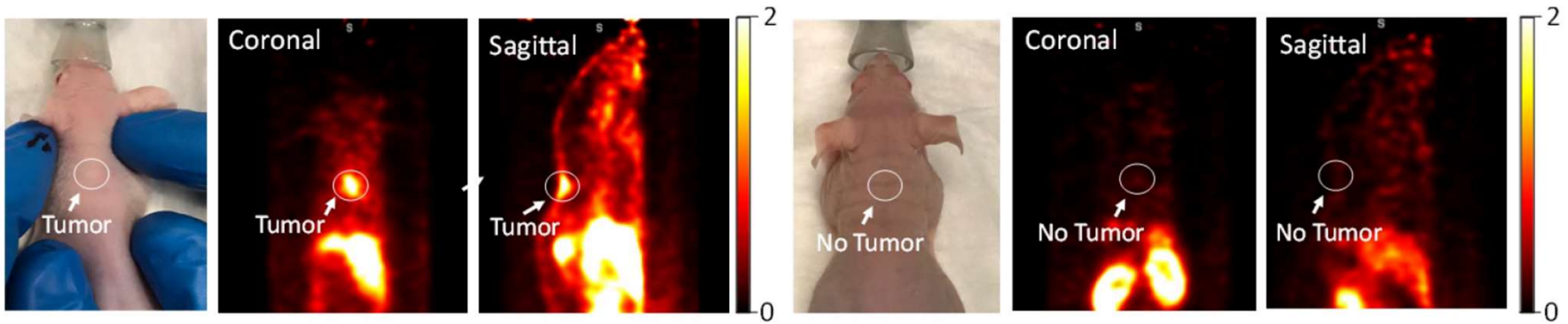
Preclinical [^{212}Pb]PSV401 Therapy

Preliminary [^{212}Pb]PSV401 Data Shows Potential to Effectively Kill Tumors [1]

- All imaging performed with [^{64}Cu]PSV401 microPET
- Treatment of PSMA+ prostate cancer xenograft with [^{212}Pb]PSV401 reduced tumor size 38% in 3 days and complete response after 9 days
- Additional preclinical work underway

2 Days Prior to [^{212}Pb]PSV401 | 18 Days Post [^{212}Pb]PSV401 Dose



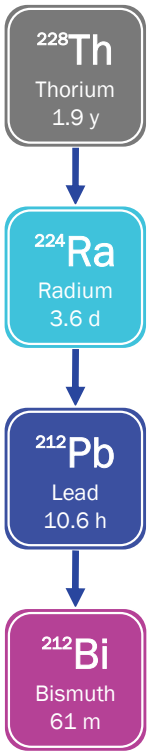
[1]Johnson et al., RPT Interest Group June 7 2023 https://rrp.cancer.gov/working_groups/AlphaPET-RPT_Int_group_lecture.pdf

PERSPECTIVE THERAPEUTICS

Appendix: Manufacturing, Production and Logistics of ^{212}Pb-labeled Therapeutics

Isotope Decay Chain Dictates Supply, Purification, Manufacturing & Logistics

Naturally Occurring Isotope Decay – No Irradiation Processes Required



Plentiful Supply:
Naturally occurring, or
produced as a waste product

- Multiple global suppliers including natural decay
- 2 year half-life allows stockpiling

Chemical Separation:
Allows for Ra-based
generators of ^{212}Pb

- Half-life allows global distribution
- Weekly delivery of ^{224}Ra enables daily ^{212}Pb
- 3.6 day half-life allows local storage

Chemical Separation from ^{224}Ra:
Isotope used for manufacturing
finished product

- Regional finished product manufacturing
- Leverages existing networks for logistics

High dose-rate alpha-emitting
therapeutic isotope

- ^{212}Pb acts as *in vivo* “nanogenerator” of alphas
- Perspective’s chelator retains ^{212}Bi in drug

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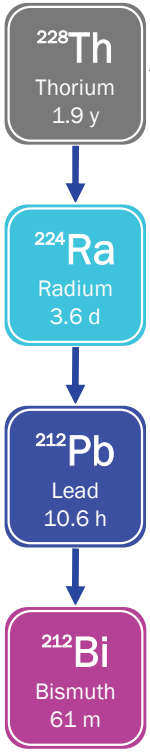
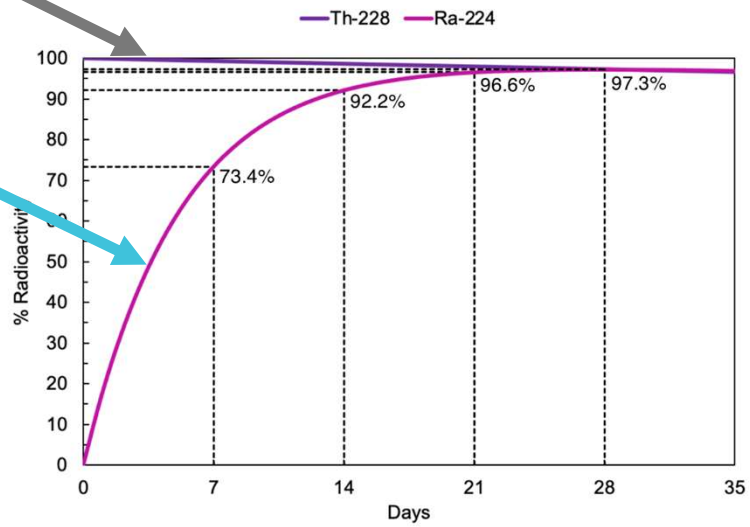
Parent Isotope Source

Key Isotopes for Supply: ^{228}Th and ^{224}Ra



^{228}Th half-life of 1.9 years allows long term storage and extraction of daughter ^{224}Ra



^{224}Ra grows in naturally (without irradiation) from ^{228}Th decay

- Perspective currently has a 10 year supply agreement with US Department of Energy
- Produced as a waste by-product from isotope ^{223}Ra (Xofigo) manufacture
- Irradiation to produce very large quantities (100s of Ci) in a high-flux reactor can be performed every 6-12 months in a single batch, or as needed
- 2-year half-life allows stockpiling and de-risks the supply chain
- 8+ suppliers identified across the globe

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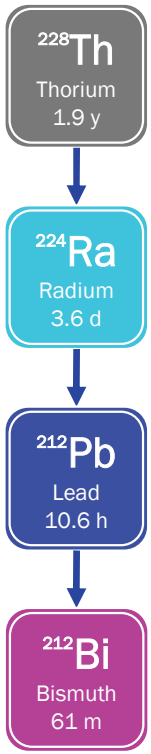
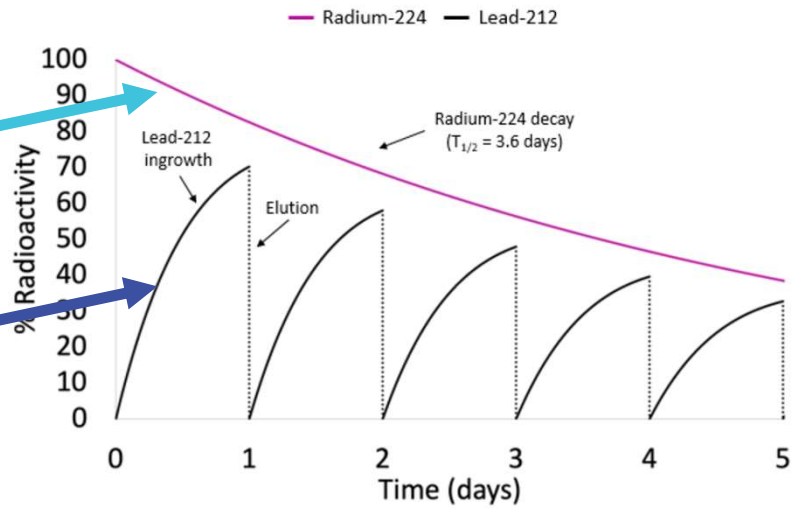
Flexible and Scalable Isotope Supply

^{224}Ra enables Regional Manufacturing Hubs



^{224}Ra half-life of 3.6 days allows weekly shipments to regional manufacturing sites



^{212}Pb grows in naturally (without irradiation) from ^{224}Ra decay

- Perspective's proprietary VMT-α-GEN enables shipping of isotope and purification of ^{212}Pb in one package, simplifying supply
- VMT-α-GEN generator technology scales for commercial production
- Extremely pure isotope allows straight-forward production process
- Regional manufacturing sites will not require licenses for any long-lived isotopes, reducing costs and waste concerns
- Other ^{212}Pb production processes are possible

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^{212}Pb is Plentiful, Storable, Scalable & Suitable for Distributed Logistics

The supply chain is lower-risk and more robust than other therapeutic isotopes

Isotope Source

Naturally occurring in mining waste

Also produced in industrial nuclear processes

Can be made on demand if needed

All other therapeutic isotopes require capital-intensive infrastructure manufacturing processes (irradiation)

Isotope Purification

Parent isotope Thorium-228 can be stored (2 yr half-life)

^{212}Pb purified from 228Th or 224Ra source in simple separation step

VMT-α-GEN enables shipping of isotope and purification of ^{212}Pb in one package

Product Manufacturing

VMT-α-GEN ^{212}Pb generator technology scales for commercial production

Extremely pure isotope allows straight forward manufacturing process

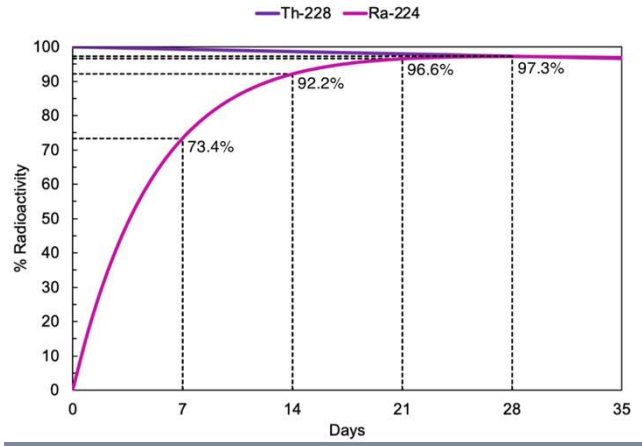
10.5 hr half life of ^{212}Pb allows for robust regional distribution of finished radiopharmaceuticals

PERSPECTIVE THERAPEUTICS

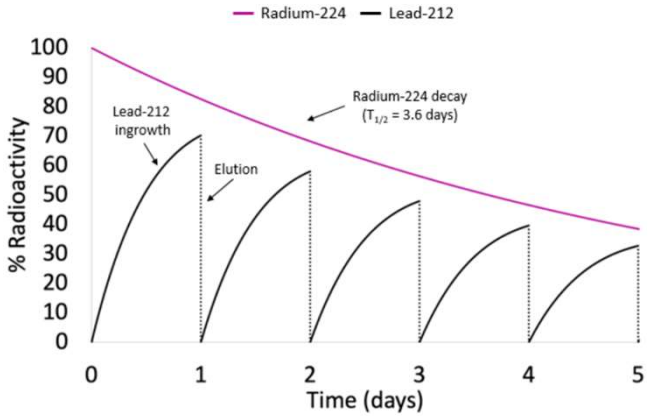
Parent Isotope Source

Key Isotopes for Supply: Th-228 and Ra-224

- Storage of thorium-228 (half-life of 1.9 years) allows for “on-demand” purification of Ra-224 and Pb-212
- Multiple purification/production methods for Th-228 with different starting materials and processes, including Ra-228 generators (half-life 5.7 years)
- Ra-224 (half-life 3.6 days) allows for continental shipping of material to network of finished product manufacturing sites (CDMOs)
- A weekly supply of Ra-224 can be purified daily to produce batches of Pb-212



Ra-224 grows in naturally (without irradiation) from a Th-228 “source”

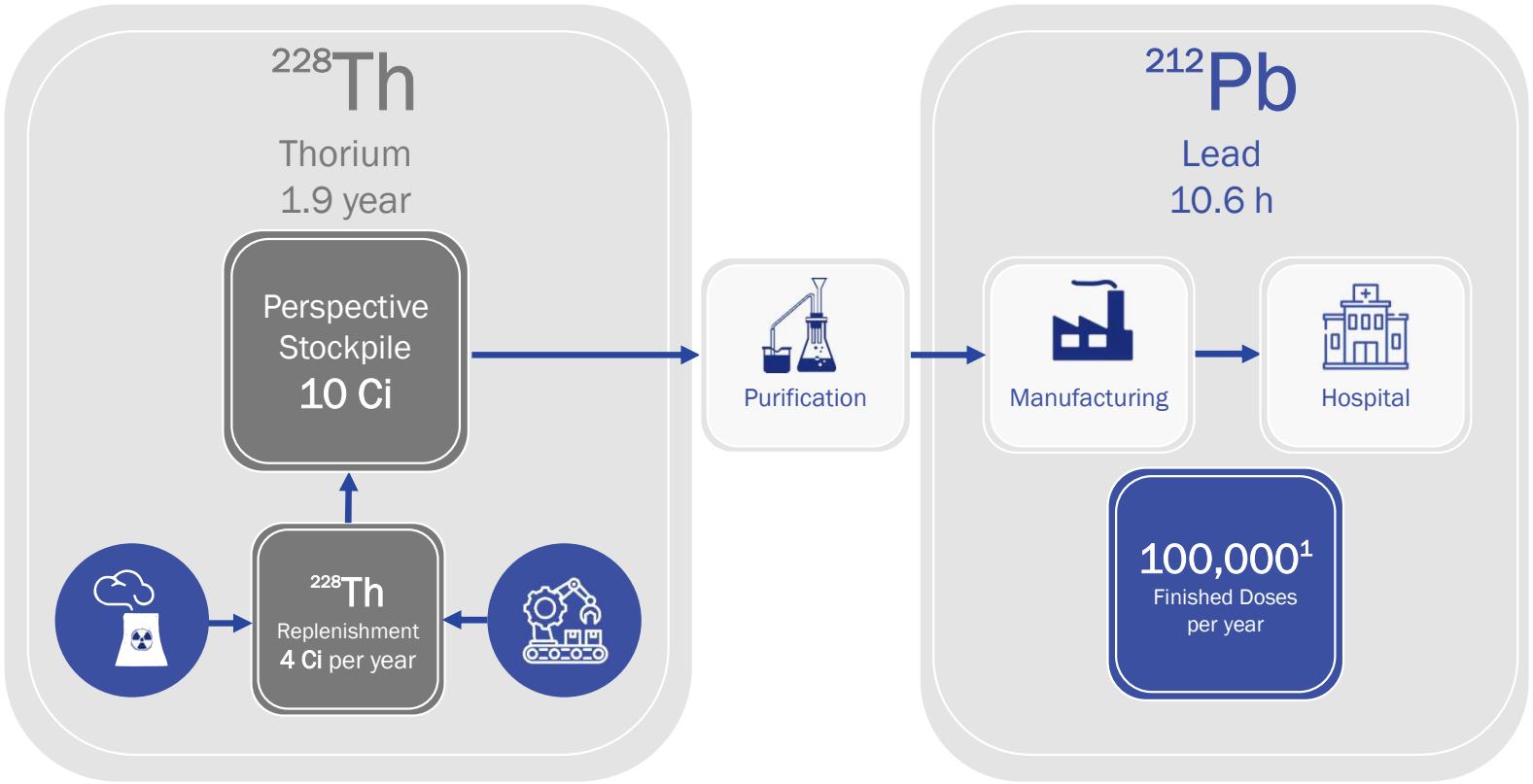


Pb-212 grows in naturally (without irradiation) from a Ra-224 “source”

PERSPECTIVE THERAPEUTICS

^{212}Pb Dose Modeling from Parent Isotope

Replenishable ^{228}Th stockpile ensures supply of commercial quantities of ^{212}Pb for finished dose manufacture[1]



[1] Approximations based on company estimates

PERSPECTIVE THERAPEUTICS

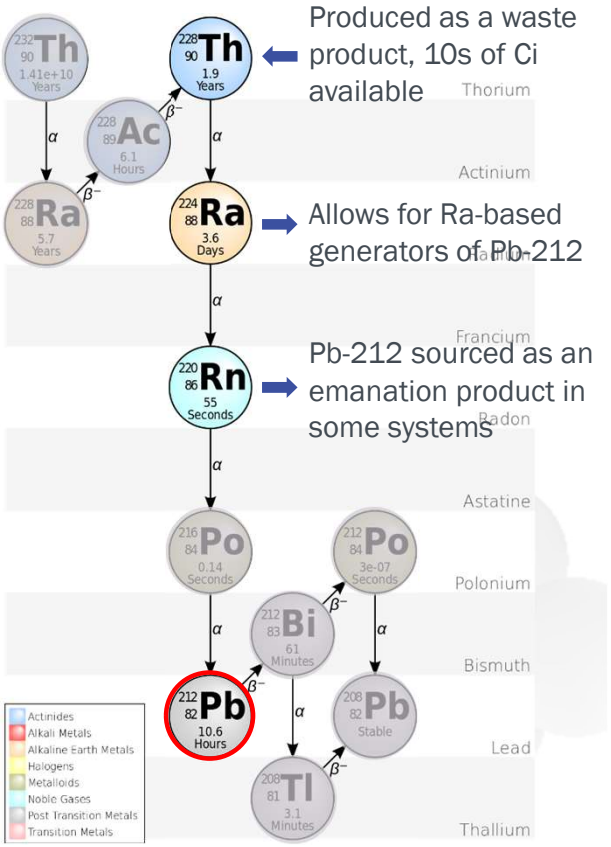
Parent Isotope Supply

Large quantities of precursor Th-228 available

- Thorium-228 is available as a natural isotope but is also produced as a waste product from the nuclear fuel cycle, and as a result of production of therapeutic isotope Ra-223 (marketed as Xofigo, Bayer)
- Both Ac-227 (the parent isotope of Ra-223) and Th-228 are created when DOE's ORNL irradiates radium-226 in the High Flux Isotope Reactor.[1]
- The DOE therefore has 10s of curies of Th-228 available in a highly purified form
- Perspective Therapeutics estimates that such current quantities would suffice for approximately 150,000+ patient doses per year
- Perspective has a long-term supply agreement with the DOE for supply of Th-228

The availability of parent isotope in large quantities significantly de-risks supply of Pb-212 as a therapeutic isotope.
In addition, it provides methodological flexibility for Pb-212, as there are many processes available for large-scale purification.

Natural decay, no input needed



1. https://www.ornl.gov/news/thorium-228-supply-ripe-research-medical-applications

PERSPECTIVE THERAPEUTICS

Pb-212 Isotope Purification

Multiple purification paths to Pb-212 available

Small scale

- Similar in size to Ga-68 generators
- Useful for preclinical R&D and clinical trials
- Nimble, portable supply available for either local or regional production
- Typically chromatography column based
- Using Ra-224 as parent
- Shelf life approx. 1-2 weeks
- 1-2 doses per batch per day

Examples:

- DOE
- VMT-α-GEN

Medium scale

- "Desktop" generators
- Useful for clinical trials & limited commercial production
- Non-portable, fixed location within hot cell in local production facility
- Gas-phase separation of the Rn-220
- Shelf life approx. 1 year
- 1-3 doses per batch per day

Examples:

- Advancell, others

Commercial scale

- Hot cell-sized generators
- For commercial production
- Non-portable, fixed location within hot cell in regional production facility
- Either chromatography or gas-phase separation using Th-228 source
- Permanent installation, topped up with Th-228 approx every 3 to 6 mo
- Questions about scalability and licensing

Examples:

- Multiple In development

The production of Pb-212 is inherently scalable to demand, flexible due to different purification schemes and cost-effective due to existing isotope availably. This contrasts with other alpha-emitting isotopes which require large infrastructure to produce and purify.

PERSPECTIVE THERAPEUTICS

^{212}Pb Supply via Reusable Desktop Isotope Generator

VMT-α-GEN

- Extensive feedstock from nuclear and mining waste material
- Long-term supply contract secured with US DOE
- On demand daily doses
  - Auto-regenerates overnight
  - ~1 week shelf life

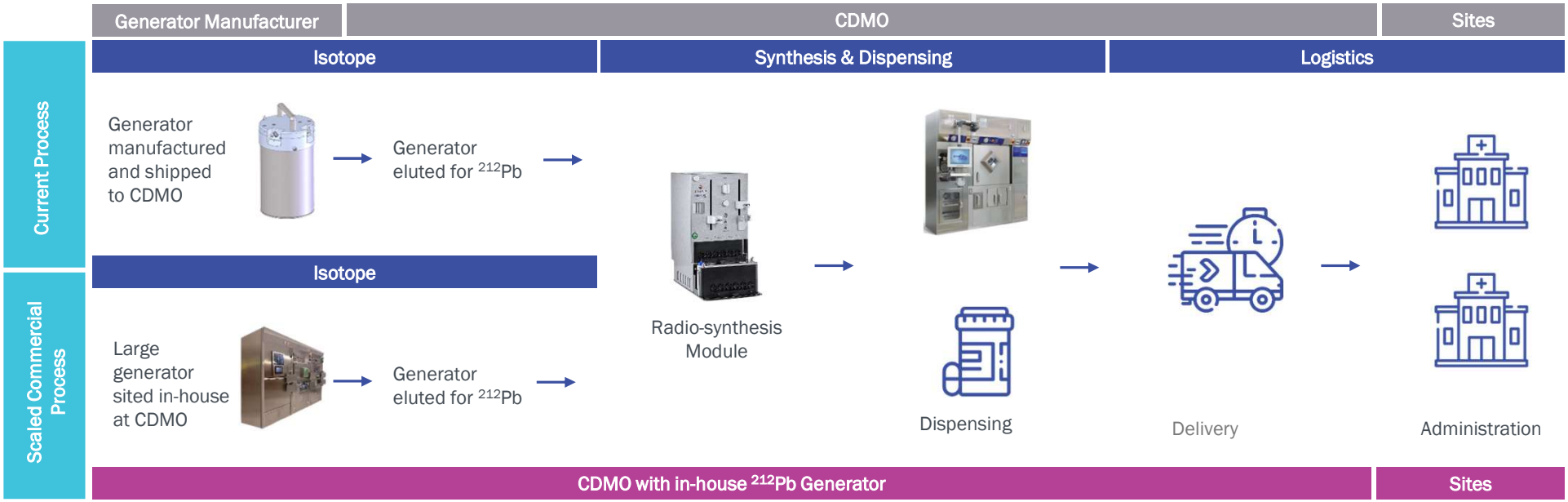
Small, Elegant ^{212}Pb Isotope Generator

- Integrated lead shielded containment
- Simple inlet and outlet ports
- Radioactive feedstock for nearly 300 generators fits in a small vial

PERSPECTIVE THERAPEUTICS

Scalable Manufacturing and Distribution Logistics

Perspective's plan to flexibly scale manufacturing to commercial levels (100,000+ doses per year)



- Commercial supply will require the use of an isotope production system of larger scale than the current $^{224}Ra/^{212}Pb$ generators
- The current isotope separation process remains highly scalable with larger activity levels
- Regional CDMOs will have capabilities to expand capacity as needed as more ^{212}Pb products come on-line

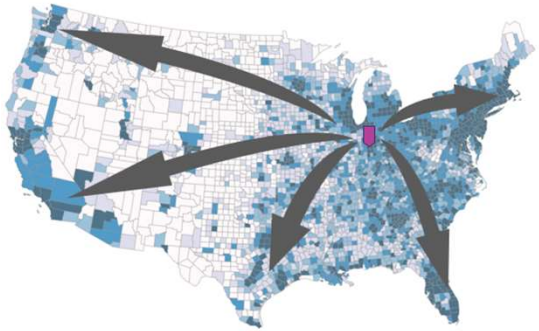
PERSPECTIVE THERAPEUTICS

Centralized vs Distributed Network Production

Networked production is more reliable and utilizes existing logistics for distributed supply

Single centralized manufacturing facility

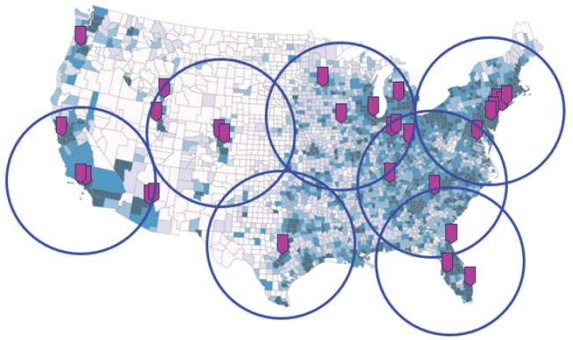
- Suitable for longer half-life isotopes (eg ^{177}Lu, ^{131}I, ^{225}Ac, ^{67}Cu)
- Allows for national/international production
- Shipping of finished product typically requires air and road transport
- Single point of failure (eg Novartis' PLUVICTO® production issues)



VS

National network of manufacturing facilities

- Suitable for shorter half-life isotopes (eg ^{212}Pb, ^{211}At)
- Requires multiple manufacturing sites for regional finished product
- Shipping of finished product typically road transport
- No single point of failure
- Allows for flexibility and redundancy, improving reliability of supply
- Redundancy fills in to meet demand



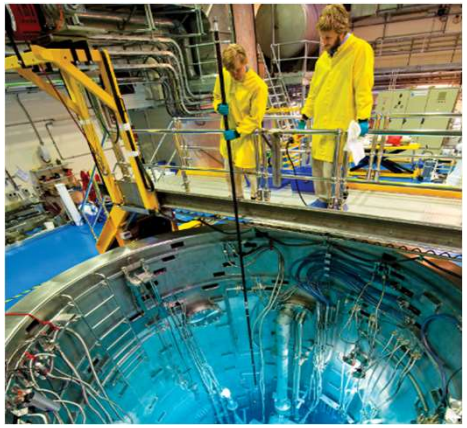
[1] Company estimates

Isotope: Availability and Scalability at Clinical Development Stages

Isotope Production methods

Large, centralized capital-intensive infrastructure such as reactors, cyclotrons, LINACs etc.

- Suitable for longer half-life isotopes (eg. Lu-177, I-131, Ac-225, Cu-64/67, Pb-203 etc.)
- Allows for national/international production, shipping of finished product
- Somewhat vulnerable as redundancy can be expensive
- Large capital investment required (subsidized by government currently)



Vs.

Generator-based supply that can be deployed locally or regionally (Portable or in-house permanent installation)

- Suitable for shorter half-life isotopes with appropriate decay schemes (eg. Tc-99m, Pb-212, Ga-68)
- Requires multiple manufacturing sites across a network & local/regional finished product
- Allows for flexibility and redundancy, improving reliability of patient dose supply

Can be scaled for multi-dose manufacture at regional CDMOs with permanent in-house Pb-212 generator: Perspective’s approach for commercialization

PERSPECTIVE THERAPEUTICS

Isotope and Finished Product Landscape: Commercial Supply

	Centralized Isotope and Manufacturing - Competitors	Cost	Pb-212-labeled Commercial Perspective Products
Parent Isotope Source	• Lu-177: Ytterbium-176 is expensive. Limited supply from Russian sources. Purification is a cumbersome process • Ac-225: Limited access to parent supplies such as Ra-226, U-233	High-mid vs Low	• Th-228 available in very plentiful, pure supply • Allows for stockpiling of precursor parent isotope
Isotope Production Method	• Multiple production methods available, some lead to contaminants • Typically requires dedicated nuclear reactors or large accelerators	High-mid vs Low	• No need for irradiation – Th-228 decays to Ra-224 and Pb-212
Purification of Isotope	• Extremely large hot cells required for initial separation • Can be off site at third parties in dedicated facilities	High vs Mid	• Occurs on-site prior to finished product within existing CDMO facilities (commercial)
Isotope Shipping	• Isotope frequently shipped to site for finished product manufacture	Mid vs Low	• Parent isotope at site already (commercial)
Finished Product Manufacturing	• Typically centralized at one large site	Similar (1 $$$ site vs multiple $)	• Distributed network of scalable regional manufacturing sites
Logistics	• Distributed nationally	Similar	• Distributed by regional facilities
Summary	Long supply chains, higher 3rd Party risk, complex processing, less redundancy, more labor and capital intensive, less environmentally friendly, not scalable to demand	Higher up front for centralized approach, but similar costs post finished product	Short supply chains, vertical integration of activities, simple processing, greater redundancy, less capital intensive, more environmentally friendly, scalable to demand

PERSPECTIVE THERAPEUTICS