Fusion Pharmaceuticals to Acquire Phase 2 Program for ^{225}Ac-PSMA I&T

February 13, 2023

Forward Looking Statements

This presentation contains forward-looking statements of Fusion Pharmaceuticals, Inc. ("we," "us," "our," "Fusion" or the "Company") within the meaning of the Private Securities Litigation Reform Act of 1995. Forward looking statements include all statements that are not historical facts, and in some cases, can be identified by terms such as "may," "might," "will," "could," "would," "should," "expect," "intend," "plan," "objective," "anticipate," "believe," "estimate," "predict," "potential," "continue," "ongoing," or the negative of these terms, or other comparable terminology intended to identify statements about the future. Forward-looking statements contained in this presentation include, but are not limited to, statements regarding our future financial or business performance, conditions, plans, prospects, trends or strategies and other financial and business matters; our current and prospective product candidates, the timing and advancement of current and planned clinical trials, our ability to replicate results achieved in our preclinical studies or clinical trials, or that of RadioMedix, Inc. in any future studies or trials; research and development costs; the competitive landscape and market for our product candidates; our ability to maintain our intellectual property portfolio; the success of our planned inter partes review ("IPR") filing; and the timing and success of our development and commercialization of our product candidates, including our ability to establish and maintain collaborations or strategic relationships. New risks and uncertainties may emerge from time to time, and it is not possible to predict all risks and uncertainties. Except as required by law, we assume no obligation to update these forward-looking statements publicly, or to update the reasons actual results could differ materially from those anticipated in the forward-looking statements, even if new information becomes available in the future. For a discussion of these and other risks and uncertainties, and other important factors, any of which could cause our actual results to differ from those contained in the forward-looking statements, see the section entitled "Risk Factors" in our most recent annual report on Form 10-K filed with the Securities and Exchange Commission (the "SEC"), as well as discussions of potential risks, uncertainties, and other important factors in our other subsequent filings with the SEC. In addition, we have not conducted any head-to-head studies comparing our product candidates to any third-party drug products or candidates, whether investigated or approved. Information regarding other drug products in this presentation is meant to provide context for illustrative purposes only. Because there are no head-to-head studies, no conclusions should be made based on cross-study comparisons. Recipients are cautioned not to place undue reliance on these forward-looking statements, which speak only as of the date such statements are made and should not be construed as statements of fact.

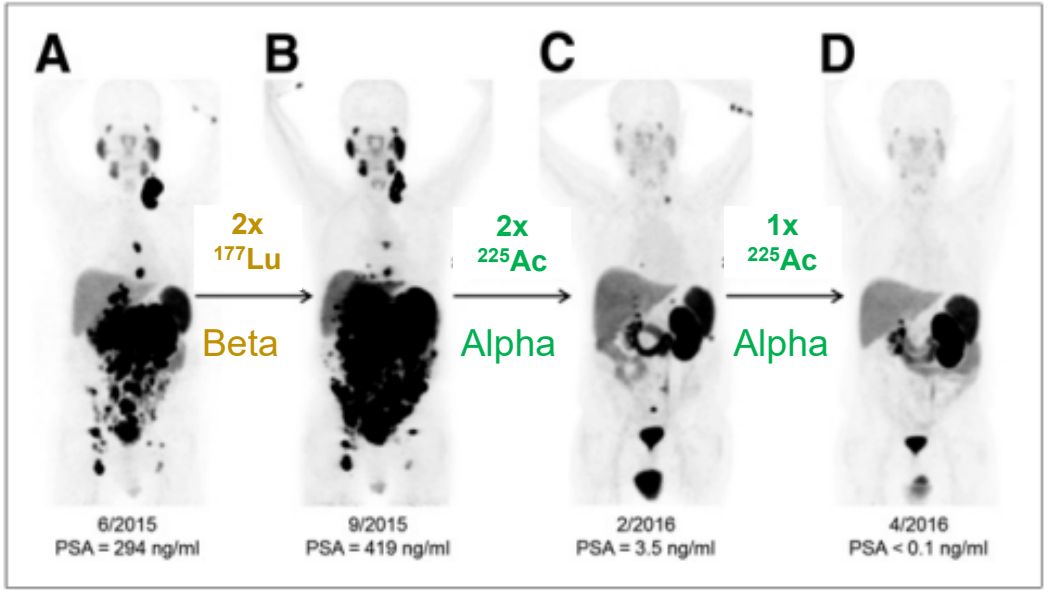
This presentation includes statistical and other industry and market data that we obtained from industry publications and research, surveys and studies conducted by third parties as well as our own estimates of potential market opportunities. All of the market data used in this prospectus involves a number of assumptions and limitations, and you are cautioned not to give undue weight to such data. Industry publications and third-party research, surveys and studies generally indicate that their information has been obtained from sources believed to be reliable, although they do not guarantee the accuracy or completeness of such information. Our estimates of the potential market opportunities for our product candidates include several key assumptions based on our industry knowledge, industry publications, third-party research and other surveys, which may be based on a small sample size and may fail to accurately reflect market opportunities. While we believe that our internal assumptions are reasonable, and management is responsible for the accuracy of such assumptions and data, no independent source has verified such assumptions.

Summary

- Clinical data is emerging showing superior efficacy[1] with alpha therapies vs beta in mCRPC (e.g. ^{177}Lu-PSMA vs. ^{225}Ac-PSMA)
  - Creates opportunities to be a best-in-class therapy for Lu naive and treat relapsed/refractory patients
  - ^{225}Ac-PSMA-I&T has achieved clinical POC already in mCRPC
- Actinium supply barriers are preventing large scale studies and commercialization of the potentially superior alpha therapies
- **Fusion is uniquely positioned with our ^{225}Ac supply and expertise to bring the first ^{225}Ac-PSMA agent to market**
  - **Similar first-to-market opportunity to what Endocyte did with ^{177}Lu-PSMA-617** (which became Pluvicto)

[1]Not a head-to-head comparison

Fusion to acquire Phase 2 IND (TATCIST trial) with plan to develop ^{225}Ac-PSMA-I&T as a potential first to market



Kratochwil et al. (2016) J. Nucl. Med. 57:1941-1944

PSMA Radiopharmaceuticals: Current Developments, Challenges and Opportunities

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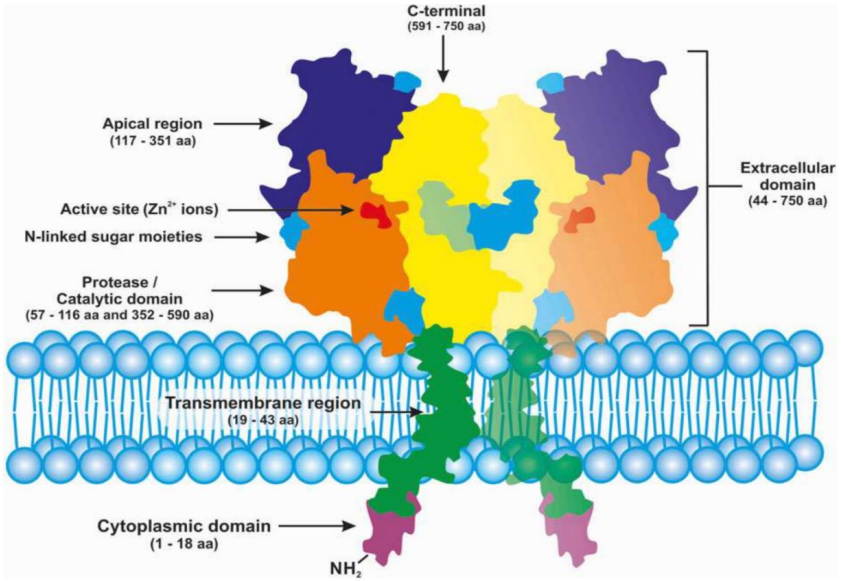
Introduction

Small molecules and antibodies targeting PSMA have been successful delivering toxins to prostate cancer.

PSMA



O'Driscott C et al, Br J Pharm 2016

A variety of promising PSMA-targeted radiopharmaceuticals are under development using both Beta and Alpha emitting radionuclides, filling important unmet need for patients

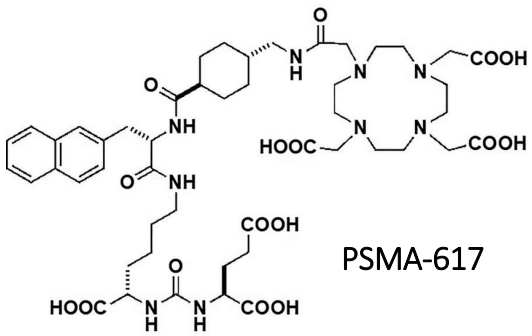
*Prospective Published Data

PSMA Radiotherapies Clinical Trial Summary

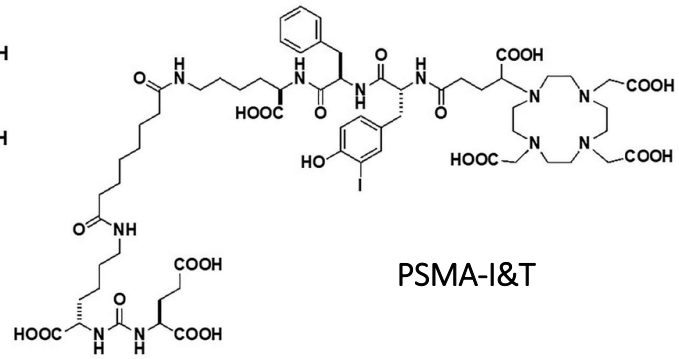
Agent / Type	Sponsor	Isotope		Ongoing Trials Phase	
		Beta	Alpha		
J591	Cornell	^{177}Lu		I/II*	Antibody
J591	Cornell		^{225}Ac	I*	
TLX591	Telix	^{177}Lu		I	
PSMA TTC	Bayer		^{227}Th	I	
PSMA I&T	POINT	^{177}Lu		III	Small Molecule
PSMA I&T	Curium	^{177}Lu		III	
PSMA-617	Novartis	^{177}Lu		II/III*, III	
PSMA-R2	Novartis	^{177}Lu		I	
SAR-bis-PSMA	Clarity	^{67}Cu		I	
EB-PSMA-617	Peking Union	^{177}Lu		I*	
NG-001	Nucligen		^{212}Pb	Planned	
PNT-2001	POINT		^{225}Ac	Planned	
PSMA-617	Novartis		^{225}Ac	I	
PSMA I&T	**Excel Diagnostics**		**^{225}Ac**	**II**	

PSMA-Targeted Radiotherapies: Betas and Alphas

- Current PSMA radiotherapies rely on two radiations:
  - **Beta**: Single stranded DNA breakage possessing lower linear energy transfer with deeper penetration
  - **Alpha radiation**: Double stranded DNA breakage possessing a high energy transfer with short penetration depth



PSMA-617



PSMA-I&T

Physical properties of a selection of Beta emitting radioisotopes

Radionuclide	Half-life	Maximum Energy (MeV)
Ytrium-90	2.7 days	2.28
Lutetium-177	6.7 days	0.49
Iodine-131	8.0 days	0.61
Copper-67	2.6 days	0.58
Rhenium-186	3.8 days	1.07

Seminars in Nuclear Medicine **2008**, 38(5), 358

Physical properties of a selection of Alpha emitting radioisotopes

Radionuclide	Half-life	Maximum Energy (MeV)
Astatine-211	7.2 hours	5.87
Bismuth-212	61 minutes	6.09
Lead-212	10.6 hours	6.09
Actinium-225	10.0 days	5.83
Radium-223	11.4 days	5.87
Thorium-227	18.7 days	6.04

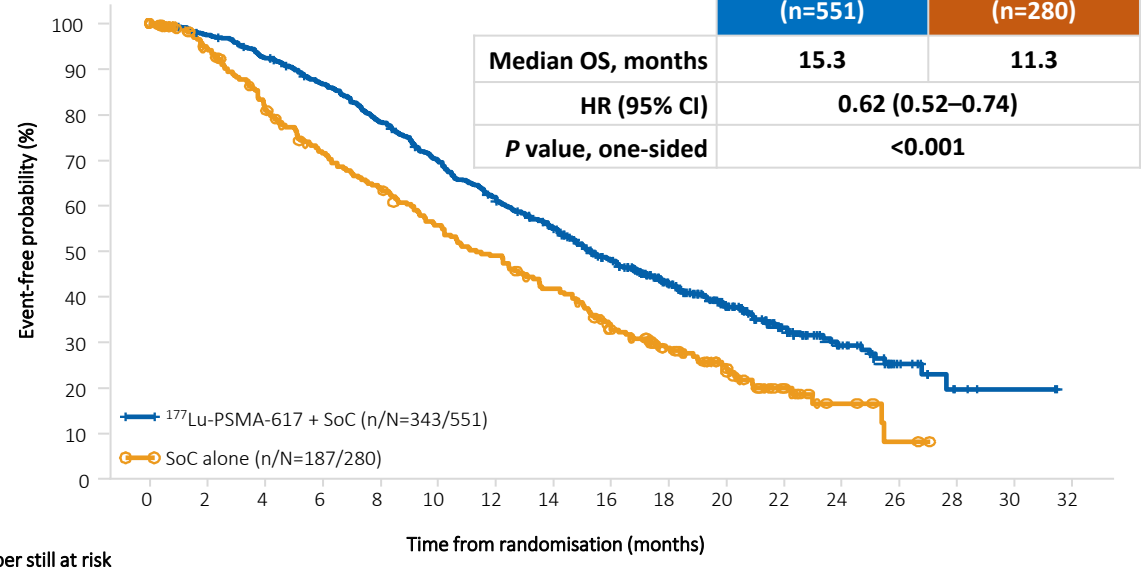
Molecules **2019**, *24*(23), 4314

PSMA-Targeted Radiotherapies: Betas lay the foundation

- The phase III VISION study with (^{177}Lu)-PSMA-617 represented a pivotal step forward to radiopharmaceuticals resulting in FDA approval in advanced metastatic castrate-resistant prostate cancer (mCRPC)

OS: HR 0.62 (95% CI 0.52-0.74)

	^{177}Lu-PSMA-617 + SoC (n=551)	SoC alone (n=280)
Median OS, months	15.3	11.3
HR (95% CI)	0.62 (0.52–0.74)	
P value, one-sided	<0.001	

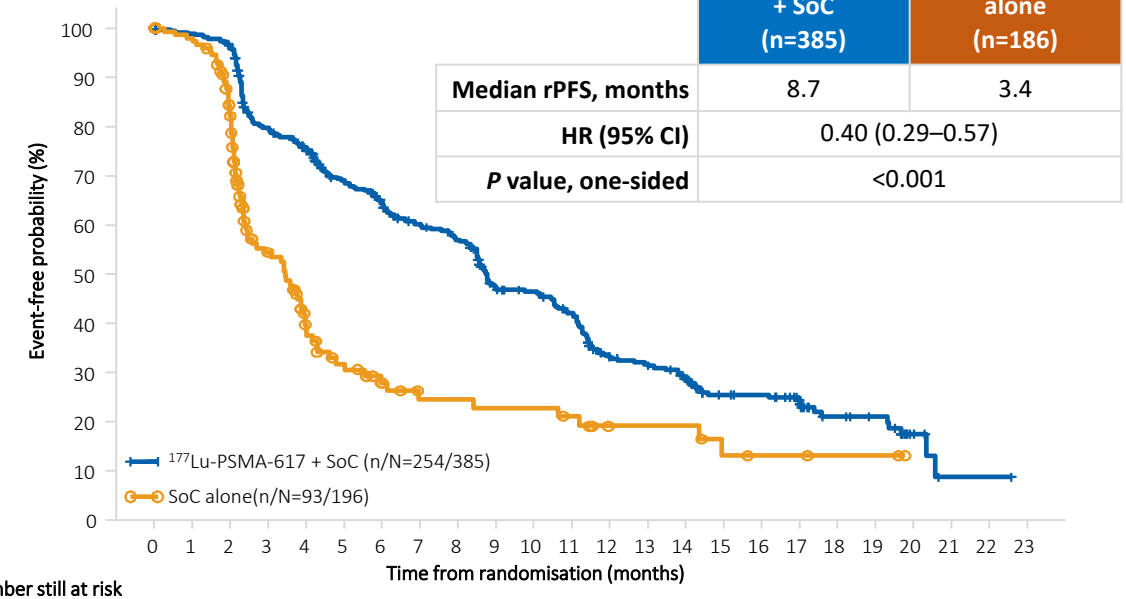


Number still at risk

^{177}Lu-PSMA-617 + SoC	551	535	506	470	425	377	332	289	236	166	112	63	36	15	5	2	0
SoC alone	280	238	203	173	155	133	117	98	73	51	33	16	6	2	0	0	0

rPFS: HR 0.40 (95% CI 0.29-57)

	^{177}Lu-PSMA-617 + SoC (n=385)	SoC alone (n=186)
Median rPFS, months	8.7	3.4
HR (95% CI)	0.40 (0.29–0.57)	
P value, one-sided	<0.001	



Number still at risk

^{177}Lu-PSMA-617 + SoC	385	373	362	292	272	235	215	194	182	146	137	121	88	83	71	51	49	37	21	18	6	1	1	0
SoC alone	196	146	119	58	36	26	19	14	14	13	13	11	7	7	7	4	3	3	2	2	0	0	0	0

- Phase III trials are underway to assess how effective this treatment will be in earlier stage PCa patients
  - PSMAfore was reported to have met its primary endpoint
- A similar molecule, (^{177}Lu)- PSMA I&T, is also being evaluated in pre-chemotherapy Phase III trials

Betas Are Now an Important Part of the Treatment Paradigm

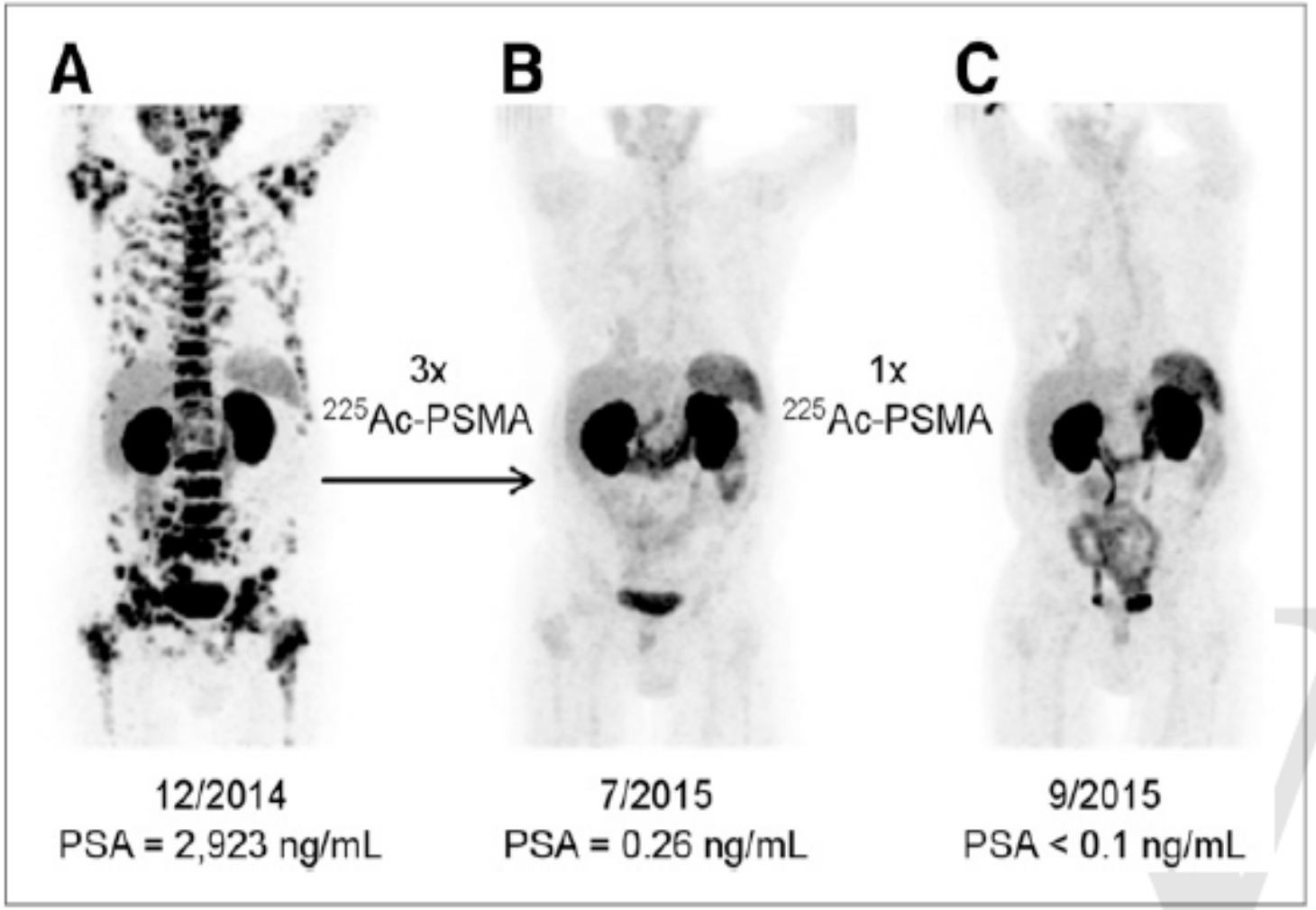
What do we do when patients still progress?

New unmet need exists for post-PLUVICTO® patients

PSMA-Targeted Radiotherapies: From Betas to Alphas

Patient A
Leuprorelin
Zoledronate
Docetaxel (50 cycles)
Carmustine/epirubicin in hyperthermia
Abiraterone
Enzalutamide
^{223}Ra (6 cycles)
Abiraterone reexposition
Estramustine

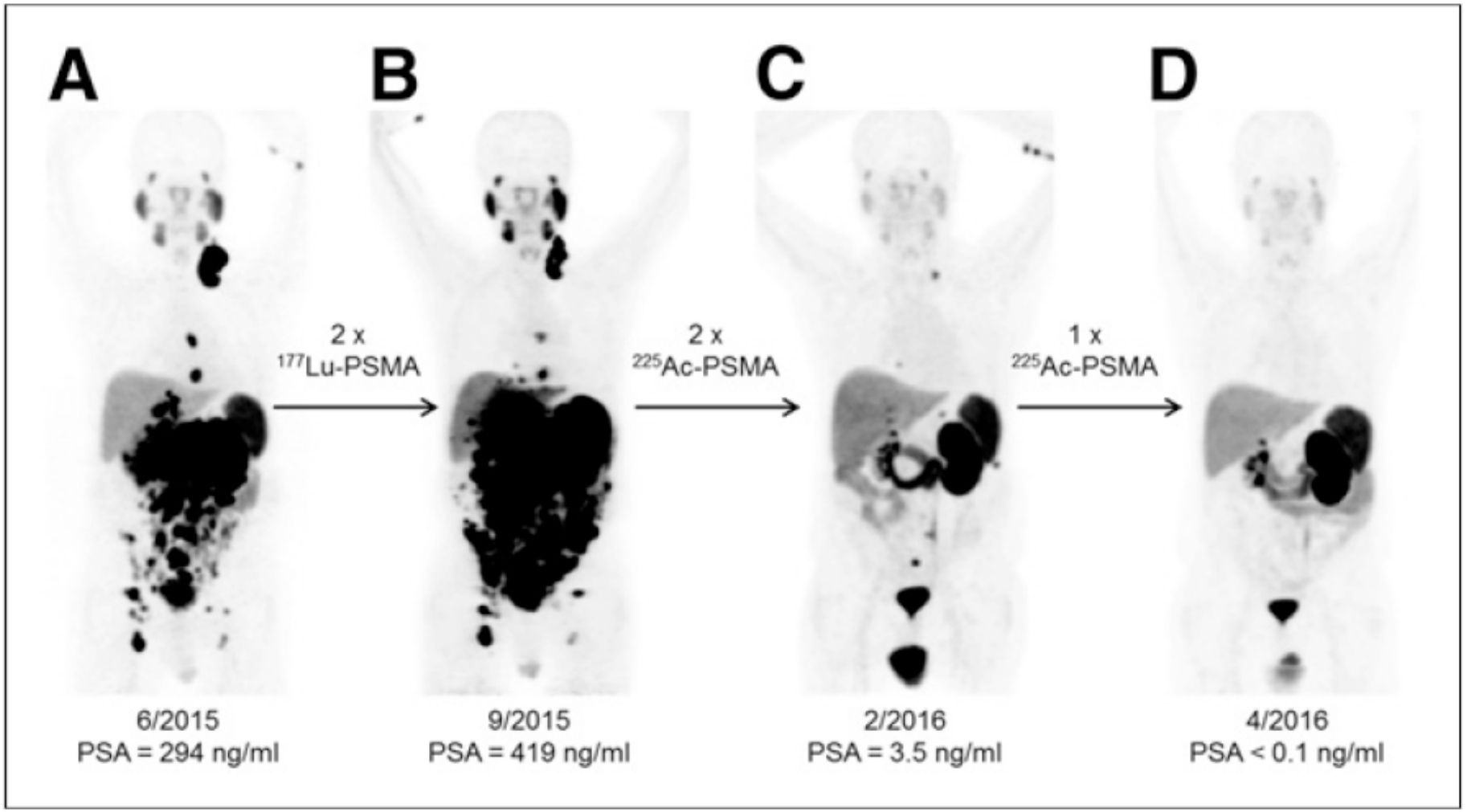
PSMA targeted alpha emitters (Actinium-225) as 9th line treatment



Kratochwil et a. J Nuc Med 57: 1-4, 2016

PSMA-Targeted Radiotherapies: From Betas to Alphas

Activity of Alpha (Actinium-225) Post-Beta (Lutetium-177) Failure



Kratochwil et a. J Nuc Med 57: 1-4, 2016

Overview of select investigator studies

^{225}Ac-PSMA-617 study	Number of patients	^{225}Ac dose	Percentage of patients pre-treated			Median PSA at time of trial entry	ECOG > 2 (%)	PSA > 50% decline	Median OS months
			Novel hormones (Abi/Enza)%	Docetaxel/ Cabazitaxel %	^{177}Lu-PSMA-617/^{223}Ra %				
Sathekge et al. (45)	73	8 MBq every 8 weeks†	2/0	51/0	14/0	57	2	70% (51/73)	18
Kratochwil et al. (46)	40	100 kBq/kg every 8 weeks	85/60	70/17.5	0/22.5	169	20	60% (24/38)	>12
Sen et al. (48)	38	100 kBq/kg every 8 weeks	63/34	100/11	24/5	147	0	66% (25/38)	12
Yadav et al. (47)	28	100 kBq/kg every 8 weeks	79/36	79/4	54/0	222	72	39% (11/28)	17

†Subjects were treated with 8 MBq then 7, 6, or 4 Mbq very 8 weeks on basis of response to treatment.
Abi, abiraterone; ECOG, Eastern Cooperative Oncology Group; Enza, enzalutamide; PSA, prostate specific antigen; OS, overall survival.

Summary

PSMA represents a validated target for prostate cancer therapeutics

The Phase III VISION study with ^{177}lutetium (^{177}Lu)-PSMA-617 represented a pivotal step forward and the FDA has now approved this agent in advanced metastatic castrate-resistant prostate cancer (mCRPC)

Patients progressing after lutetium therapy represent a new unmet need

Company-sponsored drug development, such as Fusion taking over the TATCIST trial with PSMA I&T, is needed to advance targeted alpha therapies towards Phase 3 for these relapsed and refractory patients, and potentially eventually earlier lines of therapy

Established Roadmap for PSMA-Targeted Radioligand Therapies (RLTs)

2017	2018	2019	2020	2021	2022

Endocyte acquires PSMA-617 rights for $12M

ENDOCYTE

Ph3 VISION (post-chemo) trial begins

ENDOCYTE

Endocyte acquires Ph2 IND*
for ^{177}Lu-PSMA-617

ENDOCYTE

Endocyte acquired for $2.1B

NOVARTIS

Ph3 VISION (post-chemo) meets primary endpoint

NOVARTIS

Pluvicto approval (post-chemo)

NOVARTIS

Q3: Pluvicto **$80M Q3** sales

NOVARTIS

Ph3 PSMAfore **(pre-chemo)** meets primary endpoint

NOVARTIS

$3B+ sales
for ^{177}Lu-PSMA agents projected in 2028 (US)[1]

Established roadmap for being the first to market in a growing sector

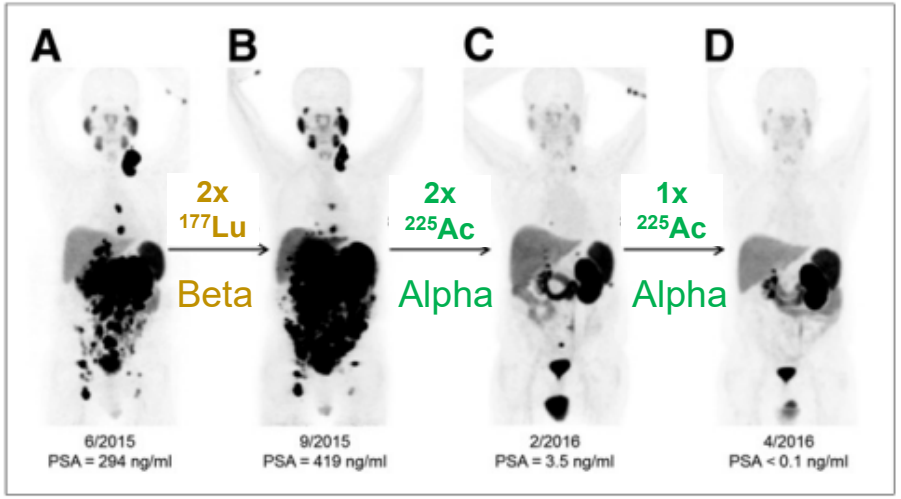
***Fusion to acquire the ^{225}Ac-PSMA Phase 2 IND from the same Investigator**

Sources: company press releases, ClinicalTrials.gov; 1) GlobalData Prostate Cancer Market Forecast 2018-2028 (updated Oct 2022)

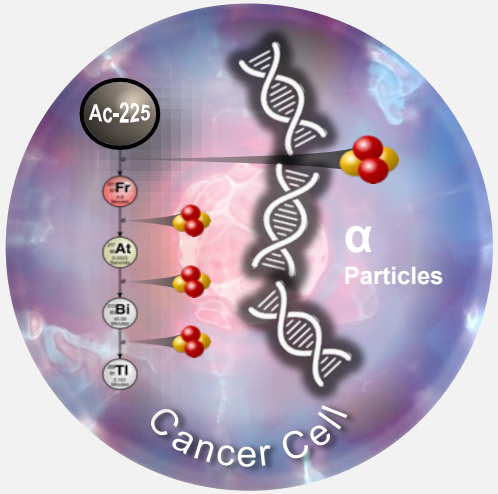
Alpha emitters are emerging as the next generation of PSMA RLTs – potential to be more potent and precise than betas

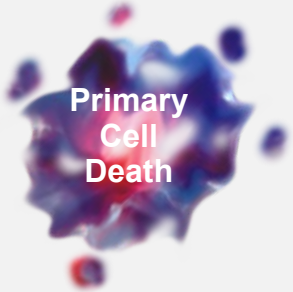
- Alpha particles (e.g., ^{225}Ac) deliver 1,500 times more linear energy transfer (LET) than beta emitters (e.g., ^{177}Lu)
  - 60-100 vs 0.1-1 keV/μm
- Energy delivered over a short distance to selectively kill tumor cells while largely sparing normal tissue
- Multiple mechanisms of tumor killing

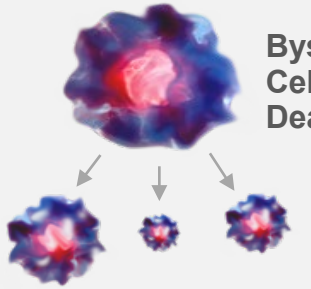
Emerging clinical data show the power of alphas versus betas in prostate cancer



Multiple Mechanisms of Action of a TAT







1. Multiple lethal double-stranded DNA breaks
2. Bystander effect
3. Potential vaccine effect

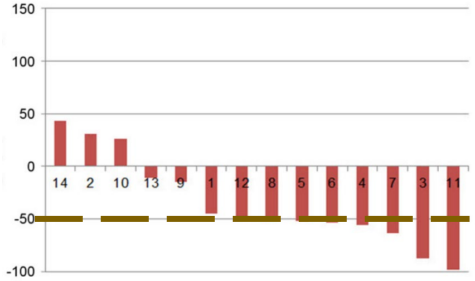
Kratochwil et al. (2016) J. Nucl. Med. 57:1941-1944

Multiple investigator sponsored studies support potential of ^{225}Ac-PSMA

- Over 250 patients treated with ^{225}Ac-PSMA globally, including ~100 post-^{177}Lu-PSMA
- Compelling efficacy data
  - ^{177}Lu-naïve: 63-66% biochemical response rates
  - Post–^{177}Lu: 28-65% biochemical response rates
- Safety results supportive of developability (no observed heme or kidney toxicity, xerostomia limited to Grade1-2)

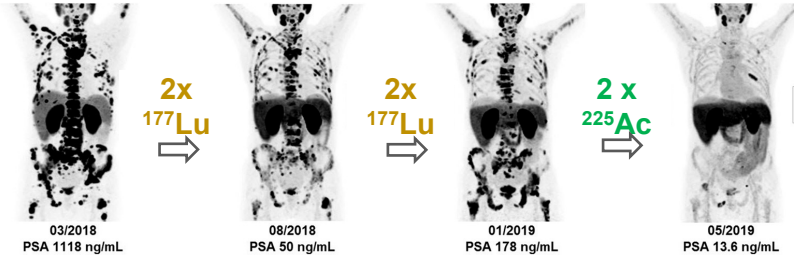
Highlighted Data: Radiographic improvement and PSA response on PSMA TAT after progression on Lu-PSMA

PSA-change (%) after first cycle



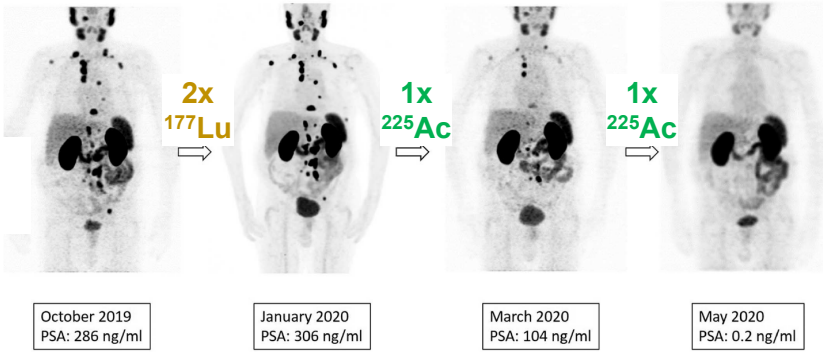
50% (7/14) biochem. response

PSMA PET Images



Zacherl et al. (2021) J Nucl Med 62:669–674

50% (6/12) biochem. response



Sanli et al. (2021) Clin Nucl. Med 46(12):943-951

Despite potential to be best in class, access to ^{225}Ac supply has been a major barrier for industry to translate these advances to approved products

Fusion is well positioned to bring the first ^{225}Ac-PSMA agent to market from supply chain and alpha experience perspectives

Secure Actinium Supply

Global Leaders in Actinium Production Currently Producing and Shipping Material

Ac-225

Supply Agreement: U.S. DEPARTMENT OF ENERGY

Strategic Partnerships

TRIUMF

- **Preferential access** to supply
- **Ability to scale** to meet our needs
- **Co-ownership of NewCo** for production of Ac-225

NIOWAVE *Accelerating the Fight Against Cancer*

- **Guaranteed access** to % of capacity
- **Preferred access** to excess capacity
- **Option to invest** for additional production

BWXT Medical

- **Global** commercial medical isotope producer and distributor
- Partnership for **preferred access to actinium**

Largest dedicated TAT manufacturing facility globally

Fusion Pharmaceuticals Inc.

- Internal GMP manufacturing to be fully operational by 2024
- Clinical & commercial supply capabilities
- Adjacent to current R&D facility for efficiency
- Multiple CDMO relationships in place today to augment supply

Skills, infrastructure, and experience – Fusion is the only company with three ^{225}Ac-based radiopharmaceuticals currently in the clinic

Current landscape of actinium PSMA programs

^{225}Ac-PSMA programs

Company/Study	Preclinical	Phase 1	Phase 2	Phase 3	Marketed
TATCIST		[^{225}Ac]-PSMA-I&T			
CONVERGENT THERAPEUTICS		[^{225}Ac]-J591 *(Ph1/2)*			
NOVARTIS		[^{225}Ac]-PSMA-617*			
POINT BIOPHARMA, itm, BAYER, Blue Earth Therapeutics, Others					

*ex-US only

Bulk of other PSMA development is with beta emitters

Sources: GlobalData, Company websites, ClinicalTrials.gov

Fusion has Entered into an Option Agreement to Take Over a Phase 2 ^{225}Ac-PSMA IND (TATCIST trial)

TATCIST Trial Summary

Patient population (mCRPC)

- Progressive disease, with docetaxel/cabazitaxel or declined taxane therapy by the patient
- With or without prior ^{177}Lu-PSMA treatment
- Positive ^{68}Ga-PSMA-11 PET/CT defined as SUV ≥2.0

Phase 2 study design

- n=100; Number of cycles per patient = 4
- Dosing every 8 weeks
- Starting Dose = 100 kBq/kg w/ dose de-escalation based on biochemical response (>50% decline in PSA)
- PSMA PET scan at baseline, after 2nd and after last dose

Key Highlights

- ✓ **Straight to Phase 2 development in US**
- ✓ **Potential to target broad patient population** (both radiopharm-naïve and pre-treated)
- ✓ Leverages **dose de-escalation learnings** from ^{225}Ac-PSMA-617 in effort to manage side effects (xerostomia) and **improve therapeutic outcomes**
- ✓ 10 patients already enrolled
- ✓ **TATCIST** was initiated by the **same investigator who ran the PSMA-617 Phase 2 trial;** PSMA-617 ultimately was acquired by Endocyte and became Pluvicto

Acquiring the IND paves the way for Fusion to be 1st to market with ^{225}Ac-PSMA

Multiple investigator sponsored studies support potential of ^{225}Ac-PSMA

- Over 250 patients treated with ^{225}Ac-PSMA globally, including ~100 post-^{177}Lu-PSMA
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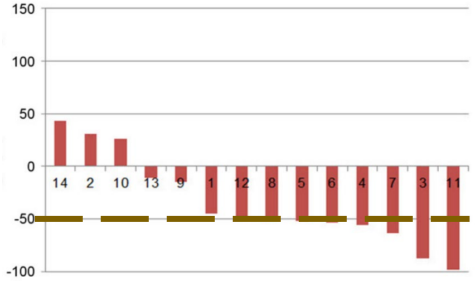

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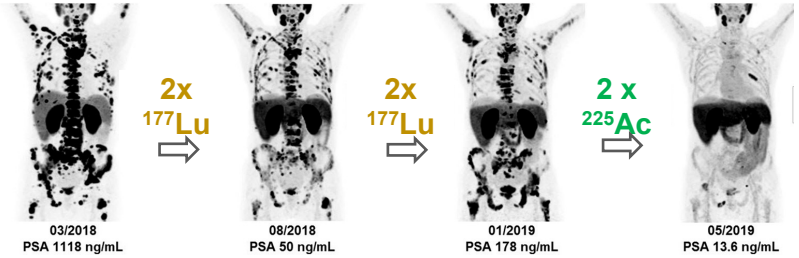

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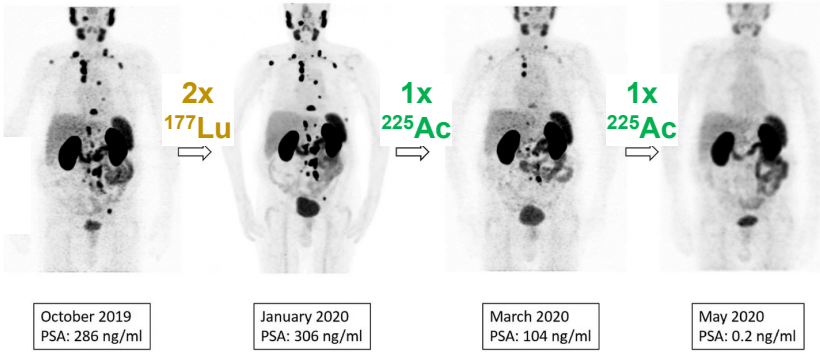
50% (6/12) biochem. response



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Despite potential to be best in class, access to ^{225}Ac supply has been a major barrier for industry to translate these advances to approved products

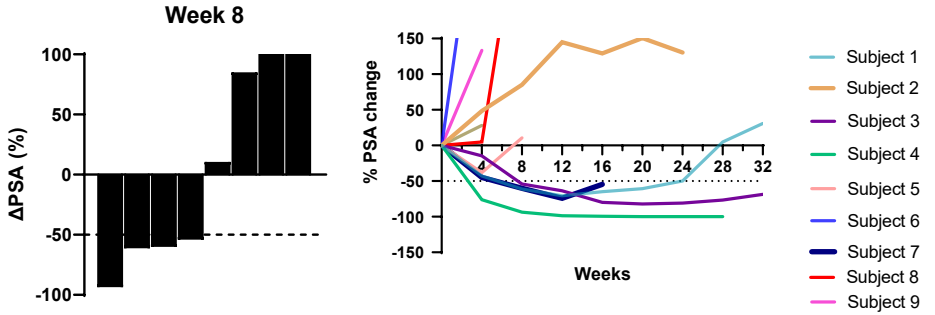
Preliminary data from TATCIST (updated as of January 29th)

10 ^{177}Lu-naïve patients enrolled

Preliminary Efficacy Results

PSA50 response

- 4/10 (40%) at any time
- 4/8 (50%) at Week 8 (after 1 cycle)



Radiographic best response (n=7):

RECIST 1.1: n=7 (note: 4 with bone only disease)

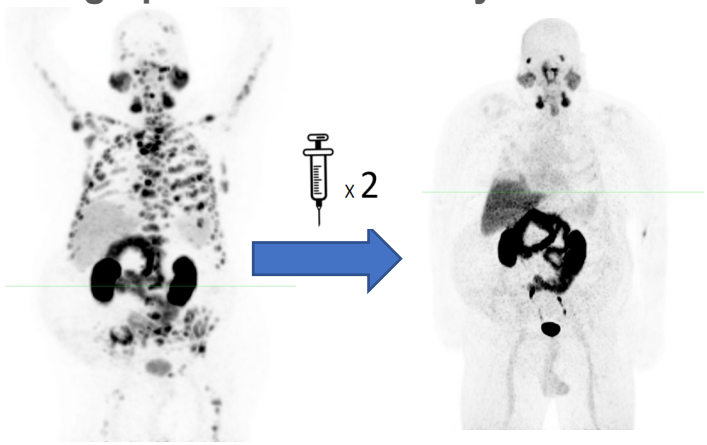
- 1 complete response
- 2 partial response *(1 unconfirmed[1])*
- 3 stable disease

PSMA-PET response: n=5

- 1 of 5 complete response
- 2 of 5 partial response (>30% decline in standardized uptake value)
- 2 of 5 stable disease (<30% decline)

[1]Unconfirmed patient has scans with 29% and 31% decrease Confirmation requires additional scan above 30%..

Radiographic assessment by PSMA PET



Subject #4- Complete Response (both by bone and PSMA-PET scans)

Preliminary Safety Results

TRAEs N=9	% Grade I	% Grade II	% Grade III	% Grade IV
Xerostomia	78	11		
Dysgeusia	11	33		
Dry eye	22			
Fatigue	22	44		
Anemia	11	22	33[2]	
WBC decrease		22		
ANC decrease	11	11		
Thrombocytopenia			11[3]	11[3]

[2]Includes one patient who had SAE of anemia G3 and thrombocytopenia G3 after 1st cycle of treatment, attribution to study drug is TBD.

[3]SAE of thrombocytopenia G4; Note: this patient was enrolled in violation of minimal required blood count.

Preliminary TATCIST data is consistent with published data on ^{225}Ac-PSMA; xerostomia has been manageable

Note: evaluable patients based on available source-verified case report forms (CRFs)

Results consistent with expectations based upon study population

Summary:

- Increase in PSA has been observed in certain patients in the study prior to 8-week post-treatment target efficacy assessment date
  - Two of these patients had ECOG Performance Status 2, a well-known adverse prognostic factor (signifying poor treatment outcomes)
- Patient with treatment-related Grade 4 thrombocytopenia and SAE of intracranial hemorrhage leading to treatment discontinuation was enrolled with Grade 2 decreased blood cell count in violation of protocol exclusion criteria
- The TATCIST study protocol was amended in December 2022 and no longer allows inclusion of Performance Status 2 patients

Development strategy

- **Initial Approval:** Potential first-to-market in ^{177}Lu-R/R patients - area of highest unmet need; addressing the expected growth in the number of patients treated with ^{177}Lu-PSMA agents
- **Follow-On Opportunities:** Potential to expand into the treatment of ^{177}Lu-naive patients and move to early lines of therapy leveraging our combination IP (I/O, DDRis)

In ~12 months Fusion will be able to report:

- Data for 20-30 patients, including safety and efficacy results (incl. PSA_{50} responses, ORR, rPFS)

In 2024:

- Anticipated completion of Phase 2 study
- Initiation of Phase 3 study activities (pending alignment with FDA on study design)

- Focus in 2023 will be expanding to additional sites, expanding manufacturing capacity and reporting initial set of data
- We expect high demand for access to the treatment

Notes:

- Endocyte (acq. By Novartis) had data on just 30 patients from an IIT Ph2 trial before they commenced Ph3; POINT leveraged data from 27 patients from their lead-in study for SPLASH at ESMO 2022 to raise $225M
- PSMAfore trial (Ph3 chemo-naive, n=470) took 17 months to get to primary completion with actual start in June 2021 and actual primary completion in October 2022 per clinicaltrials.gov (NCT04689828)

Significant and growing unmet need amongst ^{177}Lu-relapsed/refractory (^{177}Lu-R/R) patients

1 Unmet Need

In Ph3 VISION trial:

> 50% of patients did not respond

Median duration of response was <10 months

> 30% of patients went on to another therapy

2 Growing Number of Patients

Today
(w/ just VISION data/approval)

Non-metastatic	Metastatic		
	Castration-resistance (CRPC)		
Hormone-sensitive (HSPC)	1L	2L	**3L+**
	33K	23K	**15K**

^{177}Lu-PSMA use *(post-taxane)*

^{177}Lu-R/R Patients in 4/5L mCRPC

Potential in 2-3 yrs
(w/ VISION + PSMAfore + PSMAddition data/approvals)

Non-metastatic	Metastatic		
	Castration-resistance (CRPC)		
Hormone-sensitive (HSPC)	**1L**	**2L**	**3L+**
	34K	**24K**	**16K**

^{177}Lu-PSMA use *(pre- & post-taxane & HSPC)*

^{177}Lu-R/R Patients in 1*/2/3/4/5L mCRPC

3 Market Potential

Peak potential of $500M+ in ^{177}Lu-R/R segment alone (US)

>$1B additional upside in displacing ^{177}Lu-PSMA in earlier lines

Source: VISION results per clinicaltrials.gov (NCT03511664); ^{177}Lu-PSMA-617 radiographic ORR = 29.8%, mDOR = 9.8 mo.; PSA50 = 46%; duration of PSA response = 8.9 mo.
Patient and sales projections for 2025 per GlobalData Prostate Cancer Global Drug Forecast 2018 and Fusion analysis (*1L mCRPC where patients receive ^{177}Lu in the HSPC setting and then progress to mCRPC)
VISION: post-chemo mCRPC Ph3, PSMAfore: pre-chemo mCRPC Ph3, PSMAddition: mHSPC Ph3

Strong team positioned to execute

Expanded R&D team with deep PSMA, radiopharmaceutical and oncology experience

Chris Leamon, CSO
Scientific co-founder of Endocyte
(Pluvicto developer acq. by Novartis)

Dmitri Bobilev, CMO
Oncol./prostate cancer drug development experience
(Sanofi-Jevtana, Tesaro-Zejula)

Eric Burak, CTO
CSO at CPDC
(Global radiopharm manufacturer)

Cara Ferreira
R&D leadership at Nordion
(Global leader in medical isotopes)

Clinical Operations expertise from VISION trial

Strong Leadership Team with Radiopharmaceutical and Commercial Drug Development Expertise

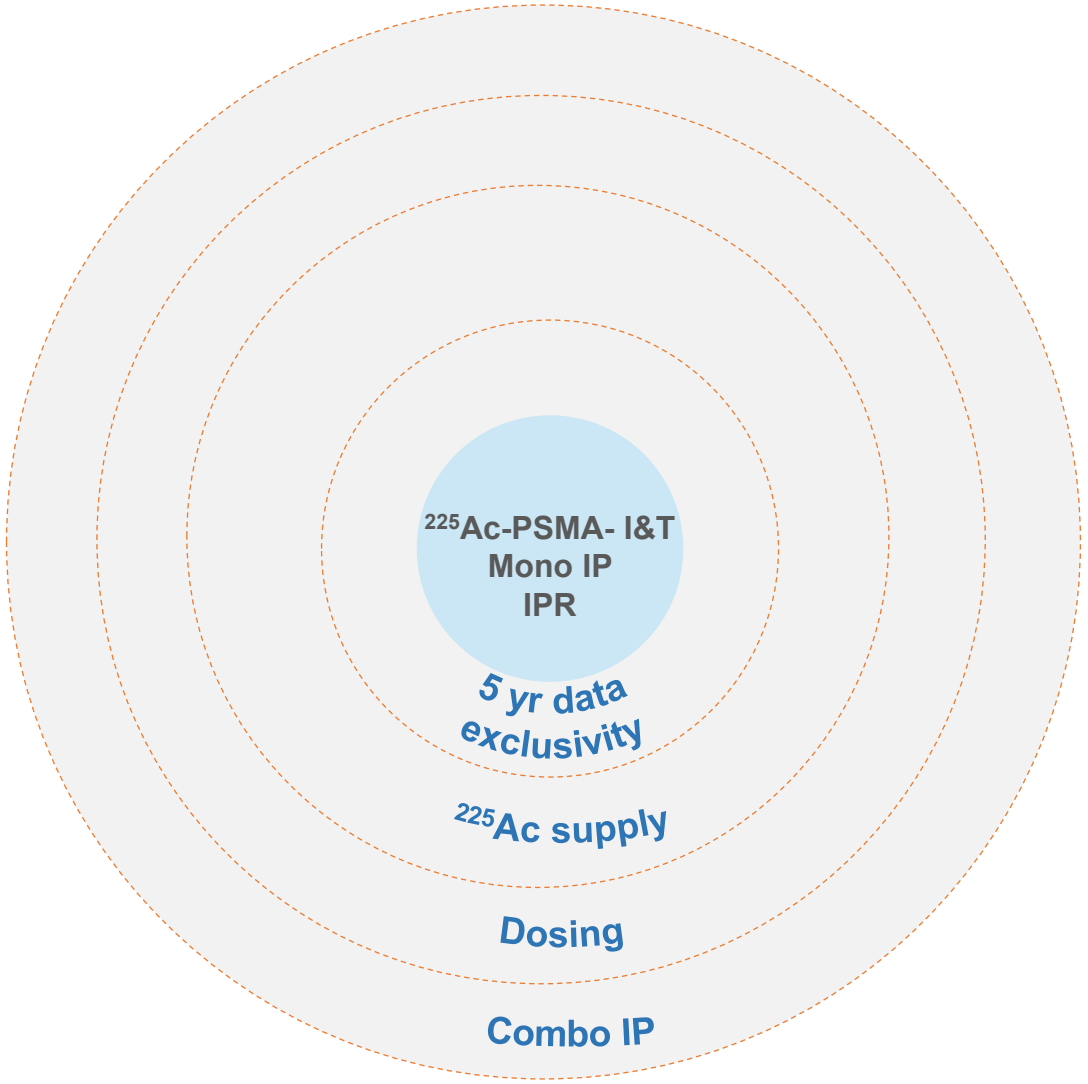
John Valliant, CEO
30 years radiopharm experience; Founder and CEO of commercial radiopharm manufacturer

Mohit Rawat, Pres. & CBO
Commercial and Business Development Leader from Novartis Oncology, AbbVie and McKinsey

John Crowley, CFO
Finance and operations experience at Merus, Charles River Labs, Ironwood, Vertex & Sunovian

Clinical advisory board with deep prostate cancer and PSMA radiopharmaceutical expertise

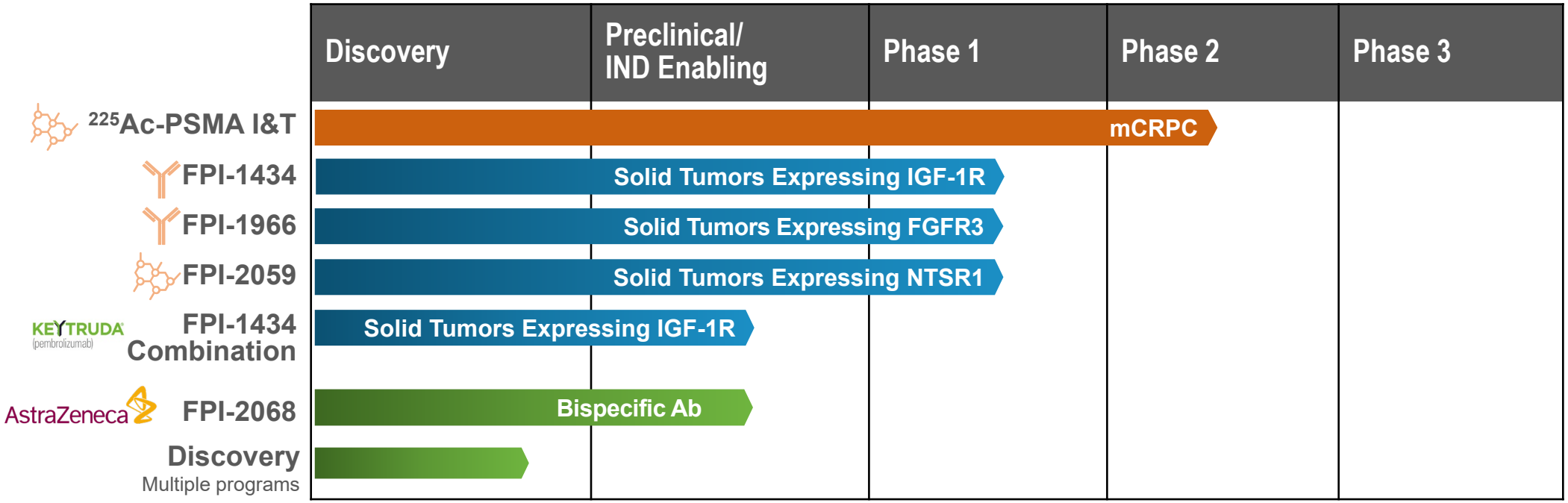
Multiple layers of protection for Fusion's first mover advantage



- ^{177}Lu-PSMA I&T was published & not patented
  - Clinical data look similar to Pluvicto
- Freedom to operate to be pursued via robust IPR to be filed to invalidate a broad patent that covers multiple ^{225}Ac-PSMA agents[1]
- Potential for five years data exclusivity if approved as an NCE
- High barrier to entry for generics into radiopharm
  - Expertise, infrastructure, and logistics requirements
- Fusion has combination IP for TATs with checkpoint inhibitors and DDRis
  - Two provisional PSMA I&T-specific combo patents filed to bolster our patent position
- Dosing and formulation patents is a white space
- ^{225}Ac supply constrains all potential competitors

[1]We have not yet filed the IPR and the outcome of such petition is inherently unpredictable. There is no assurance that we will be successful in challenging the issued patent. If our IPR challenge is not successful, there is no assurance we will be able to obtain a license on reasonable terms, if at all, to the patent necessary to commercialize any candidate product utilizing ^{225}Ac-PSMA-I&T.

^{225}Ac-PSMA-I&T adds to Fusion's strong pipeline



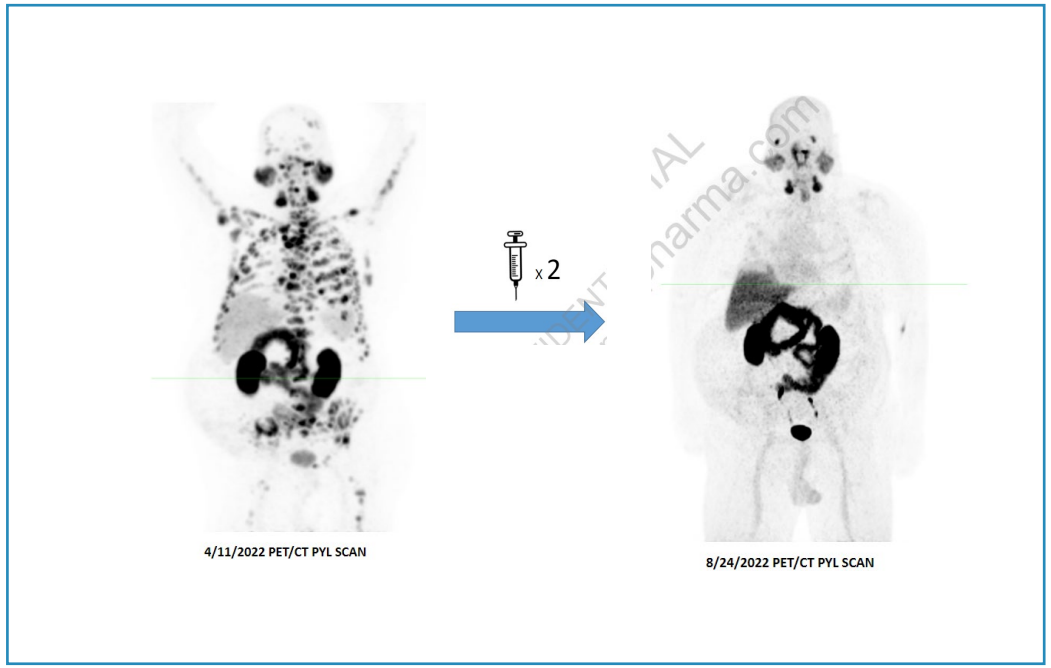
With one Phase 2 (PSMA) program, three ongoing Phase 1 programs, and a near-term IND expected via our AZ collaboration, we expect to have multiple clinical updates over the next 6-24 months

Fusion uniquely positioned to be first-to-market with ^{225}Ac-PSMA

Unmet Need

Potential 1st to Market

- **Favorable deal terms:** modest upfront payment, clinical/regulatory/sales milestones, & low single digit royalties
- Validated oncology target
- **POC demonstrated** in investigator sponsored trials
- Established regulatory pathway
- Unmet medical need – expected **growth in the ^{177}Lu R/R population**
- **High barrier to entry** due to limited **^{225}Ac supply**
- Maximizes Fusion's Ac supply advantage
- Fusion has significant TAT experience and the right team
- Opportunity to be first-to-market
- Adds a Phase 2 asset to our **pipeline of novel TATs which we expect will generate multiple clinical updates over the next 6-24 months**



PSMA PET scans of a mCRPC patient treated with two cycles of ^{225}Ac-PSMA-I&T in the TATCIST trial. A CR where the PSA level decreased from 1119 to 2.5 (>99%) after two cycles of treatment

Image is from a select patient. Results may vary by patient. This image is not necessarily indicative of expected results for every patient.

Fusion Pharmaceuticals Inc.

Supporting Information

Opportunity: Multiple publications show positive efficacy results of ^{225}Ac-PSMA across a heterogenous patient population

	Publication	Ligand*	# of Patients *(% post-Lu)*	Biochem. Response (>50% PSA red.)	PFS** (mo.)	OS (mo.)
Post-^{177}Lu	Feurecker et al. (2021)	^{225}Ac-PSMA-617	26 *(100%)*	65%	4.1	7.7
	Ilhan et al. (2021)	^{225}Ac-PSMA-**I&T**	1 *(100%)*	100%	-	-
	Tauber et al. (2019)	^{225}Ac-PSMA-617	18 *(100%)*	28%	1.3	9.6
Mix (Post-^{177}Lu/ ^{177}Lu-naïve)	Sanli et al. (2021)	^{225}Ac-PSMA-617	12 *(58%)*	50%	4	10
	Zacherl et al. (2021)	^{225}Ac-PSMA-**I&T**	14 *(79%)*	50%	-	-
	Yadav et al. (2020)	^{225}Ac-PSMA-617	28 *(54%)*	39%	12	17
	Sathekge et al. (2020)	^{225}Ac-PSMA-617	73 *(19%)*	70%	15.2	18
	Satapathy et al. (2020)	^{225}Ac-PSMA-617	11 *(46%)*	46%	-	-
	Van der Doelen et al. (2020)	^{225}Ac-PSMA-617	13 (15%)	69%	NR	8.5
^{177}Lu-naïve	Sen et al. (2021)	^{225}Ac-PSMA-617	38 *(0%)*	66%	8	12
	Kratochwil et al. (2018)	^{225}Ac-PSMA-617	40 *(0%)*	63%	9	-
	Rathke et al. (2021)	^{225}Ac-PSMA-617	1 *(0%)*	100%	5 yrs	-

*Note: PSMA-I&T and PSMA-617 have been shown to be clinically comparable using ^{177}Lu in mCRPC *(Schuchardt et al. (2022) J Nucl Med 63(8):1199-1207)*

~100 post-^{177}Lu patients

**Determined by rising PSA level or ^{68}Ga/^{18}F PSMA PET, or Kaplan-Meier method

Generally comparable safety results observed for ^{225}Ac-PSMA and ^{177}Lu-PSMA; strategies emerging to manage xerostomia

Frequencies of Toxicities with ^{177}Lu-PSMA and ^{225}Ac-PSMA Radionuclide Therapy according to Common Terminology Criteria for Adverse Events (CTCAE) v5.0

Toxicity	Radionuclide	# of studies	Any Grade		Grade 3 or higher	
			# of patients	%	# of patients	%
Xerostomia	^{177}Lu	6	299/806	37%	NR	NR
	^{225}Ac	10	161/210	77%	2/12	17%
Xeropthalmia	^{177}Lu	1	29/98	30%	NR	NR
	^{225}Ac	2	5/87	6%	NR	NR
Dysgeusia	^{177}Lu	1	12/98	12%	NR	NR
	^{225}Ac	2	10/87	11%	NR	NR
Fatigue	^{177}Lu	4	358/746	48%	36/627	6%
	^{225}Ac	6	73/166	44%	1/28	4%
Anorexia	^{177}Lu	3	137/648	21%	10/529	2%
	^{225}Ac	4	36/124	29%	NR	NR
Diarrhea	^{177}Lu	3	130/727	18%	5/627	0.8%
	^{225}Ac	1	1/11	9%	NR	NR
Obstipation	^{177}Lu	2	115/548	21%	6/529	1.1%
	^{225}Ac	2	21/84	25%	NR	NR
Nausea	^{177}Lu	4	239/747	32%	8/627	1.3%
	^{225}Ac	4	23/112	21%	NR	NR
Vomiting	^{177}Lu	2	117/627	19%	6/627	1%
	^{225}Ac	2	5/84	6%	NR	NR
Hem. Tox*	^{177}Lu	1	7/40	18%	NR	NR
	^{225}Ac	NR	NR	NR	NR	NR
Anemia	^{177}Lu	5	302/835	36%	84/816	10%
	^{225}Ac	7	52/170	31%	18/169	11%
Leukopenia	^{177}Lu	3	119/794	15%	16/794	2%
	^{225}Ac	6	26/139	19%	10/113	9%
Neutropenia	^{177}Lu	4	42/237	18%	13/218	6%
	^{225}Ac	NR	NR	NR	NR	NR
Thrombocytopenia	^{177}Lu	6	230/933	25%	61/914	7%
	^{225}Ac	7	22/151	15%	9/122	7%
Renal toxicity	^{177}Lu	1	16/167	10%	1/167	0.6%
	^{225}Ac	4	27/126	21%	6/84	7%

Emerging strategies to mitigate xerostomia:

- Salivary gland protectors include cooling with **ice packs** and folic glutamate tablets
- Sialendoscopy with dilatation, saline irrigation and steroids (prednisolone)
- **Dose de-escalation**

TATCIST already includes xerostomia mitigation strategies

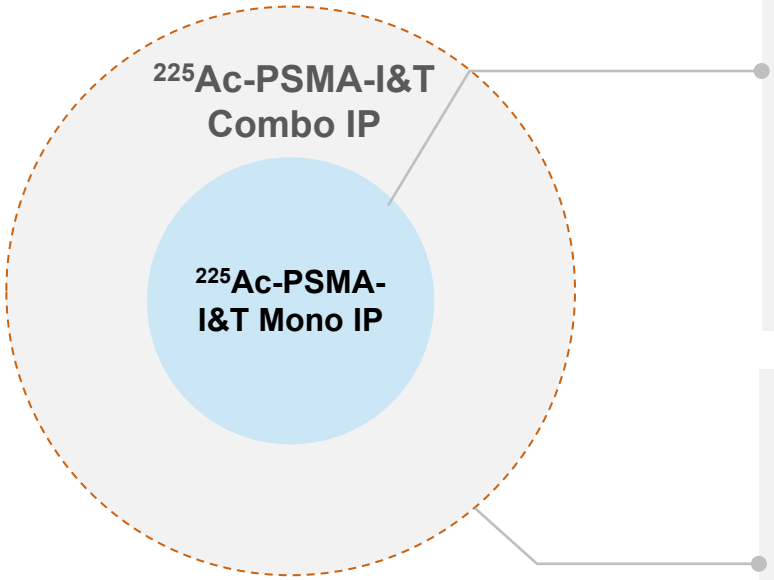
Source: Ling, SW et al. (2022) Advances in 177Lu-PSMA and 225Ac-PSMA Radionuclide Therapy for Metastatic Castration-Resistant Prostate Cancer. Pharmaceutics 14, 2166

FOR ILLUSTRATIVE PURPOSES ONLY: studies were not head-to-head comparisons between 177Lu-PSMA and 225Ac-PSMA. Differences exist between trial designs and subject characteristics, and caution should be exercised when comparing pooled and comparative data across studies.

NR: not reported; *: not specified

Monotherapy Freedom to Operate + Combo IP

^{225}Ac-PSMA-I&T IP Strategy



Monotherapy: Potential 1st to market with expected freedom to operate; potential for 5 year exclusivity

- First PSMA-I&T publication in 2015[&]; no patent covers PSMA-I&T specifically
- Yet broad patent for ^{225}Ac-PSMA agents (incl. PSMA-I&T) granted to Univ. of Heidelberg in 2021 based on their limited ^{225}Ac-PSMA-617 data (US 10,980,901)
- Inter Partes Review (IPR) will be filed based on extensive legal analysis over relevant prior art
- Robust IPR case with final outcome in 12-18 mo. timeframe
- Being first-to-market NCE may entail minimum 5 year FDA exclusivity for Fusion, typical generic entry model after does not apply to radiopharm*

Combos: Expand therapeutic potential and clinical application of ^{225}Ac-PSMA-I&T

- Broad patent on use of ^{225}Ac and checkpoint inhibitors granted to Fusion (US 11,446,401)
  - All modalities – antibodies, small molecules, peptides
- Two provisional PSMA I&T-specific combo patents filed to bolster our patent position

[&]*Weineisen et al. (2015) J Nucl Med 56(8):1169-76*
**Note: Radiopharm has an extremely high barrier to entry due to expertise, infrastructure, and logistics requirements. Thus, typical generic entry model at end of NCE exclusivity period does not apply in absence of monotherapy patent*

Combinations with I/O and DDRis could dramatically increase therapeutic indices and addressable market

Potential of Combination Therapies in mCRPC

- **Expand utility of I/O and DDRis** in mCRPC beyond narrow genetically-defined segments
- **Widen therapeutic index** by allowing for lower doses to reduce toxicity
- Move into **earlier lines of therapy**

^{225}Ac-PSMA w/ Checkpoint Inhibitors

Prime immune system to target tumors

- Keytruda does <u>not</u> have standalone prostate approval
  - *Recent failure of KEYNOTE-921 (pembrolizumab + chemo)*
- Use in mCRPC restricted to pan-tumor salvage in MSI-H/dMMR (<1% prostate) or TMB-H (<10% prostate)
- Abscopal effect seen on distal lesions (preclinical data)

^{225}Ac-PSMA w/ DDRi's

Synthetic lethality of TAT-induced DNA damage with repair inhibition

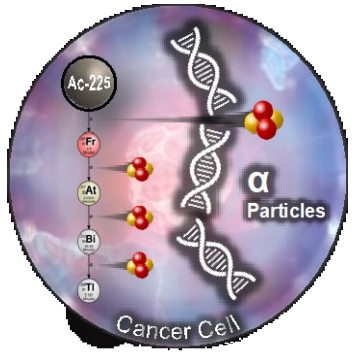
- Lynparza's prostate approval currently <u>restricted</u> to mHRR patients
- <1/3 of patients are mHRR and testing can be a barrier
- Synergistic effect seen in combo (preclinical data)

Fusion holds a broad patent for ^{225}Ac + checkpoint inhibitor combos

Source: MSI-H frequency from Bonneville R. et al (2017) JCO Precision Oncology; TMB-H frequency from Fabrizio D. et al (2021) Annals of Oncology; mHRR frequency from TOPARP, PROFOUND, and TRITON studies

Fusion is Differentiated in the Emerging Radiopharmaceutical Space

Exploiting the power of alpha



- Sector with significant momentum and barrier to entry
- Targeting high unmet need (Not a me-too company)
- Mono & combo therapies

Proven team, platform & internal R&D

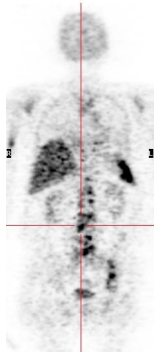
***FAST-Clear*™ Linker**

Radiopharma Expertise:

- R&D
- Non-clinical
- Clinical
- Manufacturing
- Commercial

Programs & IP

Deep clinical pipeline:



- 3 open INDs & 4th planned in Q1 2023
- Combo IP: ^{225}Ac + checkpoint inhibitors

Supply chain advantage

Access to:

TRIUMF

Ac-225

NIOWAVE
Accelerating the Fight Against Cancer

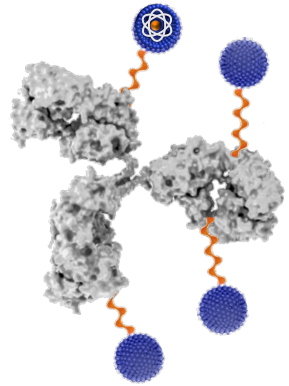
BWXT
BWX Technologies, Inc.

GMP TAT Production

Validating partnership

AstraZeneca

- Next gen ADCs
- Combo therapies



Differentiation: Fusion is a vertically integrated radiopharma company with a platform that is creating precision medicines in areas of high unmet need

Incidence of TEAEs and TRAEs in Subjects (N=9, preliminary) treated with ^{225}Ac-PSMA-I&T

TEAEs N=9

	% Grade I	% Grade II	% Grade III	% Grade IV
Xerostomia	78	11		
Dysgeusia	11	33		
Dry eye	22			
Fatigue	22	44		
Pain	33	22	11	
Anemia	11	22	33	
WBC decrease		22		
ANC decrease	11	11		
Thrombocytopenia			11	11
ALP increase	22	22		
ALT increase	11			
AST increase	11			
Creatinine increase	22		11	
eGFR decrease	11			
Constipation	44	22		
Nausea	44	11		
Diarrhea	11			
Atrial fibrillation	11			
Pleural effusion	11			
Pulmonary embolism			11	
Acute Deep Venous Thrombosis			11	
Edema limbs	11			

TRAEs N=9

	% Grade I	% Grade II	% Grade III	% Grade IV
Xerostomia	78	11		
Dysgeusia	11	33		
Dry eye	22			
Fatigue	22	44		
Anemia	11	22	33	
WBC decrease		22		
ANC decrease	11	11		
Thrombocytopenia			11	11

SAEs	Attribution	Occurrence
Creatinine increase G3, hospitalization for renal failure (AKI)	Unrelated	During follow-up
Hospitalization, cord compression, urinary retention, pleural effusion	Unrelated	Off-treatment
Death (2)	Unrelated	Off-treatment
Hospitalization, Anemia G3 and Thrombocytopenia G3,	TBD	After 1st cycle
Hospitalization intracerebral hemorrhage	Unrelated	After 2nd cycle
Thrombocytopenia G4, Platelet transfusion	Related	After 2nd cycle