



**BELL POTTER
PRESENTATION**

NOVEMBER 2021



RADIOPHARM THERANOSTICS

DISCLAIMER

This presentation has been prepared by, and is the sole responsibility of RadioPharm Theranostics Ltd (**Company**). This presentation has been prepared in relation to the offer of convertible notes (**Convertible Notes**) in the Company (**Offer**). Statements in this presentation are made only as at 3rd August 2021 and the information in this presentation remains subject to change without notice. The information in this presentation is of a general nature and does not purport to be complete, is provided solely for information purposes and should not be relied upon by the recipient.

No representation or warranty, express or implied, is made by any person as to the fairness, accuracy, completeness or correctness of the information, opinions and conclusions contained in this presentation. This presentation does not purport to summarise all information that a recipient should consider when making an investment decision, and should not form the basis of any decision by a recipient. Recipients should carry out their own investigations and analysis of the Company and verify the accuracy, reliability and completeness of the information contained in this presentation or any other form of communication to which the recipient is permitted access in the course of evaluating the Company.

Confidentiality

This presentation is confidential and not for further distribution. It is provided by on the basis that, by accepting this presentation, persons to whom this presentation is given agree to keep the information confidential, not copy the presentation and not to disclose it, in whole or in part, to anyone within their organisation except on a need-to-know basis and subject to these restrictions, or to anyone outside their organisation.

Not financial product advice

Reliance should not be placed on the information or opinions contained in this presentation. This presentation is for informational purposes only and is not a financial product or investment advice or recommendation to acquire any securities in the Company and does not take into consideration the investment objectives, financial situation or particular needs of any particular investor. Recipients of this presentation should make their own assessment of an investment in the Company and should not rely on this presentation. Recipients should conduct their own research into the financial condition, assets and liabilities, financial position and performance, profits and losses, prospects and business affairs of the Company and its business, and the contents of this presentation. Recipients should seek legal, financial, tax and other advice appropriate to your jurisdiction.

Investment risk

An investment in Convertible Notes is subject to known and unknown risks, some of which are beyond the control of the Company, including possible loss of income and principal invested. The Company does not guarantee any particular rate of return or the performance of the Company nor does it guarantee the repayment or maintenance of capital or any particular tax treatment. Investors should have regard to the risk factors outlined in

Past and future performance

Past performance information given in this presentation is given for illustrative purposes only and should not be relied upon as (and is not) an indication of future performance.

This presentation contains certain forward-looking statements with respect to the financial condition, operations and business of the Company and certain plans and objectives of the Company. Forward-looking statements can be identified by the use of forward-looking terminology, including, without limitation, the terms "believes", "estimates", "anticipates", "expects", "predicts", "intends", "plans", "targets", "aims", "outlook", "guidance", "forecasts", "may", "will", "would", "could" or "should" or, in each case, their negative or other variations or comparable terminology. These forward-looking statements include all matters that are not historical facts. Such forward looking statements involve known and unknown risks, uncertainties and other factors that because of their nature may cause the actual results or performance of the Company to be materially different from the results or performance expressed or implied by such forward looking statements. Such forward looking statements are based on numerous assumptions regarding the Company's present and future business strategies and the political and economic environment in which the Company will operate in the future, which may not be reasonable, and are not guarantees or predictions of future performance. No representation is made that any of these statements or forecasts will come to pass or that any forecast result will be achieved, or that there is a reasonable basis for any of these statements or forecasts.

Forward-looking statements speak only as at the date of this presentation and to the full extent permitted by law, the Company, Bell Potter and their respective affiliates and related bodies corporate and each of their respective related parties and intermediaries disclaim any obligation or undertaking to release any updates or revisions to information to reflect any change in any of the information contained in this presentation (including, but not limited to, any assumptions or expectations set out in the presentation).

Recipient warranties

By receiving a copy of this presentation, you represent and warrant that:

- a) You are a 'sophisticated investor' or 'professional investor' for the purposes of section 708(8) or 708(11) of the Corporations Act or are otherwise an investor to whom Convertible Notes may be issued without disclosure under section 708 of the Corporations Act.
- b) You have, or will have, sufficient financial resources to fulfil your obligations under the Offer and you are able to bear the economic risk of an investment in the Convertible Notes.
- c) Other than as set out in this presentation, you have not relied on any warranty or representation made by the Company, Bell Potter or any of its officers or representatives in your decision to subscribe for Convertible Notes.

DISCLAIMER

- a) You have made and relied upon your own assessment of the Company and have conducted your own investigations with respect to the Convertible Notes including, without limitation, any restrictions on resale of the Convertible Notes and the particular tax consequences of subscribing for, owning or disposing of the Convertible Notes in light of your particular situation and you have decided to subscribe for the Convertible Notes based on your own enquiries and professional advice, and not in reliance upon any act, investigation, research, recommendation, representation or document provided by the Company, Bell Potter or any person acting on their behalf.
- b) You have knowledge and experience in financial matters such that you are capable of evaluating the merits and risks of subscribing for the Convertible Notes. You have determined the Convertible Notes to be a suitable investment.
- c) This presentation does not purport to contain all of the information that you may require for the purpose of making an investment in the Company, is not a prospectus and does not contain the same degree or standard of information as a prospectus, and has not been checked, verified or assessed for accuracy or completeness by external advisers, intermediaries or independent experts, nor by any party who has distributed those documents on behalf of the Company including Bell Potter.
- d) No representation or warranty (express or implied) is made by the Company or Bell Potter as to the accuracy, completeness, likelihood of achievement or reasonableness of any projections and forward looking statements in this presentation, nor of the assumptions on which the projections and forward looking statements are based, and projections and forward looking statements are not guarantees of future performance.

Recipient acknowledgements

By receiving a copy of this presentation, you acknowledge that:

- a) Although the Company is considering whether to undertake a listing on the ASX (Listing), the Company makes no representations, warranties or guarantees that:
 - 1) the Company will seek the Listing at a certain time or at a certain price per security;
 - 2) Listing will occur, as the occurrence of the Listing is dependent on a number of factors including performance of the business of the Company, alternative corporate transactions, offers that may be received by the Company, economic and market conditions, Listing conditions and the proposed Listing price;
 - 3) if any Listing occurs, the securities will appreciate in value or an active market in the securities will develop or continue
 - 4) Shares in the Company (Shares) upon conversion of the Convertible Notes will not be tradeable on-market unless and until Listing;
 - 5) you (in your capacity as holder of the Convertible Notes or Shares) must participate in the Listing as required by applicable law or the rules of the relevant stock exchange on which the Listing is to occur and will take such steps as the Company or its advisers may reasonably require to facilitate a Listing (provided always that the you shall not be required to sell any Convertible Notes or Shares); and
 - 6) if Listing occurs, the Shares may be subject to escrow or trading restrictions imposed by the rules of the ASX or applicable Law for up to two years.

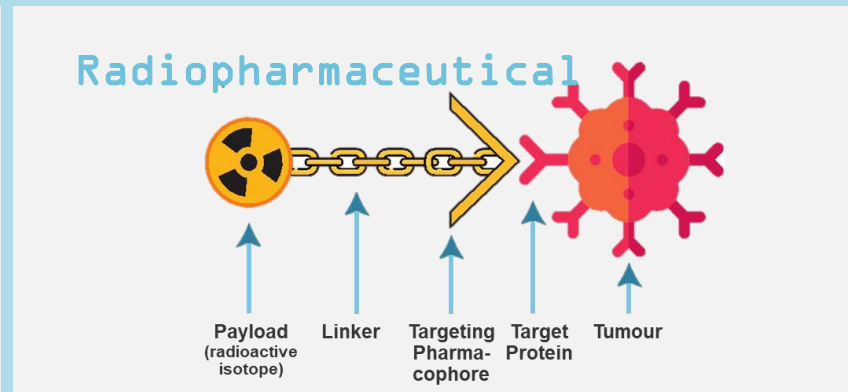
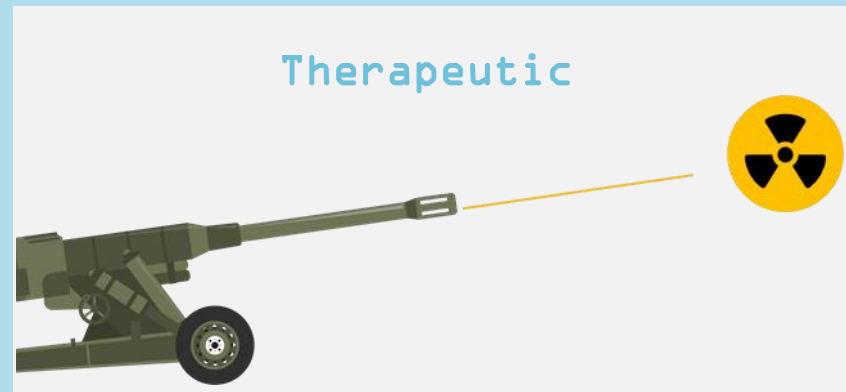
- b) An investment in the Company is speculative and subject to various and significant Company-specific, economic, geographical, social and technological risks, including those set out in this presentation and any term sheet in connection with the Offer provided to you.
- c) You have read and understood this presentation (including the risks set out therein) and any term sheet in connection with the Offer, and you have made and relied upon your own inquiries or obtained your own independent advice in relation to any risks set out in this presentation and any term sheet in connection with the Offer.

No Liability

By receiving a copy of this presentation, you acknowledge that:

- a) None of Bell Potter nor any of its respective affiliates or related bodies corporate, nor any of each of its respective advisers, directors, officers, partners, employees, contractors or agents, have authorised, permitted or caused the issue, submission, dispatch or provision of this presentation and, except to the extent referred to in this presentation, none of them make or purport to make any statement in this presentation and there is no statement in this presentation that is based on any statement by any of them.
- b) To the maximum extent permitted by law, Bell Potter and its respective affiliates or related bodies corporate, and each of their respective advisers, directors, officers, partners, employees, contractors and agents exclude and disclaim all liability, including without limitation for negligence or for any expenses, losses, damages or costs incurred by you as a result of your participation in or failure to participate in the Offer and the information in this presentation being inaccurate or incomplete in any way for any reason, whether by negligence or otherwise.
- c) To the maximum extent permitted by law, Bell Potter and their respective affiliates or related bodies corporate, and each of their respective advisers, directors, officers, partners, employees, contractors and agents make no representation or warranty, express or implied, as to the currency, accuracy, reliability or completeness of information in this presentation or the likelihood of achievement or reasonableness of any forecasts or prospects and, with regards to Bell Potter and its respective affiliates or related bodies corporate, and each of their respective advisers, directors, officers, partners, employees, contractors and agents take no responsibility for any part of this presentation or the Offer. The information in this presentation includes information derived from third party sources that has not been independently verified.
- d) Bell Potter and its respective affiliates or related bodies corporate, and each of their respective advisers, directors, officers, partners, employees, contractors and agents make no recommendations as to whether you or your related parties should participate in the Offer nor do they make any representations or warranties to you concerning the Offer, and you represent, warrant and agree that you have not relied on any statements made by Bell Potter, or any of its respective affiliates or related bodies corporate, or any of their respective advisers, directors, officers, partners, employees, contractors or agents in relation to the Offer and you further expressly disclaim that you are in a fiduciary relationship with any of them.

WHAT ARE RADIOPHARMACEUTICALS?



Radiopharmaceuticals deliver radioactive isotopes to the tumour cells

- Diagnostics: low energy radioisotopes which allow physicians to **SEE** and to measure disease within the body
- Therapeutics: high energy particle emitters to **TREAT** malignant tumours, cancer, and other diseases

Process involves attaching a radioactive isotope to a targeting agent such as a small molecule or antibody

- Peptides or mAbs specifically binds tumour cells
- Peptides or mAbs are loaded with Imaging Isotopes to **SEE** the tumor cells
- Peptides or mAbs are loaded with Therapeutic Isotopes to **TREAT** tumor cells, being extremely selective to damage cancer cells DNA, while not damaging healthy tissues

INVESTMENT HIGHLIGHTS

Highly prospective portfolio comprising clinical & pre-clinical stage radiopharmaceutical assets for both diagnostic & therapeutic applications

Four distinct and well differentiated clinical platforms spanning peptides, small molecules & antibodies - 133 patients dosed to date

Deep clinical program on-foot with five Phase 2 clinical trials and two Phase 1 clinical trials ongoing

One of the deepest clinical pipelines on the ASX

Commercially attractive license arrangements

Broad & robust IP portfolios



World-class management team comprising C-suite executive team recruited from the most prestigious radiopharmaceuticals companies & universities globally

Manufacturing utilizing many of the widely adopted radioisotopes in the existing supply chain

Targeting ASX IPO November 2021

Rich news flow generated by four platforms over next 24 months

R&D engine secured with lab and facilities access via Sponsored Research Agreements

FOUR DISTINCT & WELL DIFFERENTIATED PLATFORMS

BALANCED PORTFOLIO OF SMALL MOLECULES, PEPTIDES AND MONOCLONAL ANTIBODIES,
WITH DIAGNOSTIC & THERAPEUTIC POTENTIAL

Pivalate

Phase 1 & Phase 2 | N=49

- Phase 2 kidney diagnostic
- Phase 2 Brain mets diagnostic
- Phase 2 glioma diagnostic
- Phase 2 solid tumor
- Pre-clinical companion therapeutic

Nano-mAbs

Phase 1 | N=74

- Phase 2 HER-2 breast diagnostic
- Phase 1 HER-2 breast therapeutic
- Pre-clinical PD-L1 NSCLC Therapeutic
- Pre-Clinical Trop 2 & PTK7 diagnostic

Avb6 Integrin

Phase 1 | N=10

- Phase 1 diagnostic pancreatic, head & neck
- Pre-clinical therapeutic, pancreatic, head & neck

PSA-mAb

Pre-clinical

- Pre-clinical diagnostic and therapeutic in prostate cancer



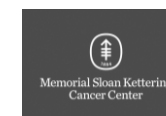
KING'S
College
LONDON



UNIKLINIK
RWTHAACHEN



University Medicine Essen
University Hospital



LUNDS
UNIVERSITET

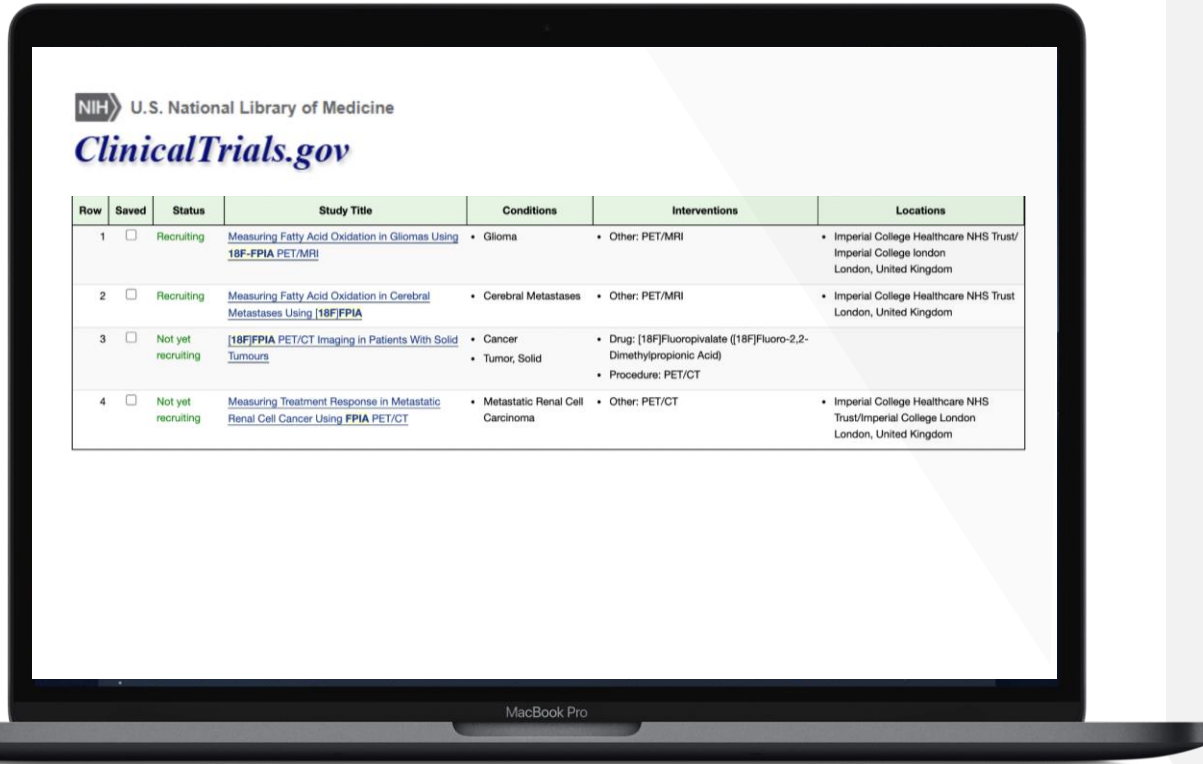
18F-Pivalate PHASE 1 & PHASE 2

N=47

Pivalate
Phase 1 & Phase 2 | N=
49



RPT 18F-FPIA radiotracer is the invention of Professor Eric Aboagye of Imperial College London



Based on a short chain carbohydrate which utilizes the early steps of fatty acid oxidation and is very stable

In comparison to the clinical standard in PET imaging, 18F-FDG, in prostate and brain cancers, 18F-FPIA showed superior imaging performance, and was equally good for 2 breast cancer models

Phase 1a in 24 healthy patients completed

Phase 1b study complete in glioma

Phase 2 kidney and Brain mets studies currently recruiting

Phase 2 study in resected solid tumours to be opened in Nov/Dec 2021

Phase 2 study for glioma to be opened in Nov/Dec 2021

Sponsored Research Agreement to be entered with Imperial over three years with a focus on therapeutic use

Candidate selection of Pivalate therapeutic to be completed by 1 half 2022

The technology is based on single-domain camelid antibodies known as nano-mAbs derived from camels

The technology is the invention of Dr Hong Hoi Ting formerly of Oxford University, GE Healthcare, and Shanghai National Technology Centre

A therapeutic product is made by a genetic engineered camelid antibody labelled with a radioisotope of therapeutic radiation.

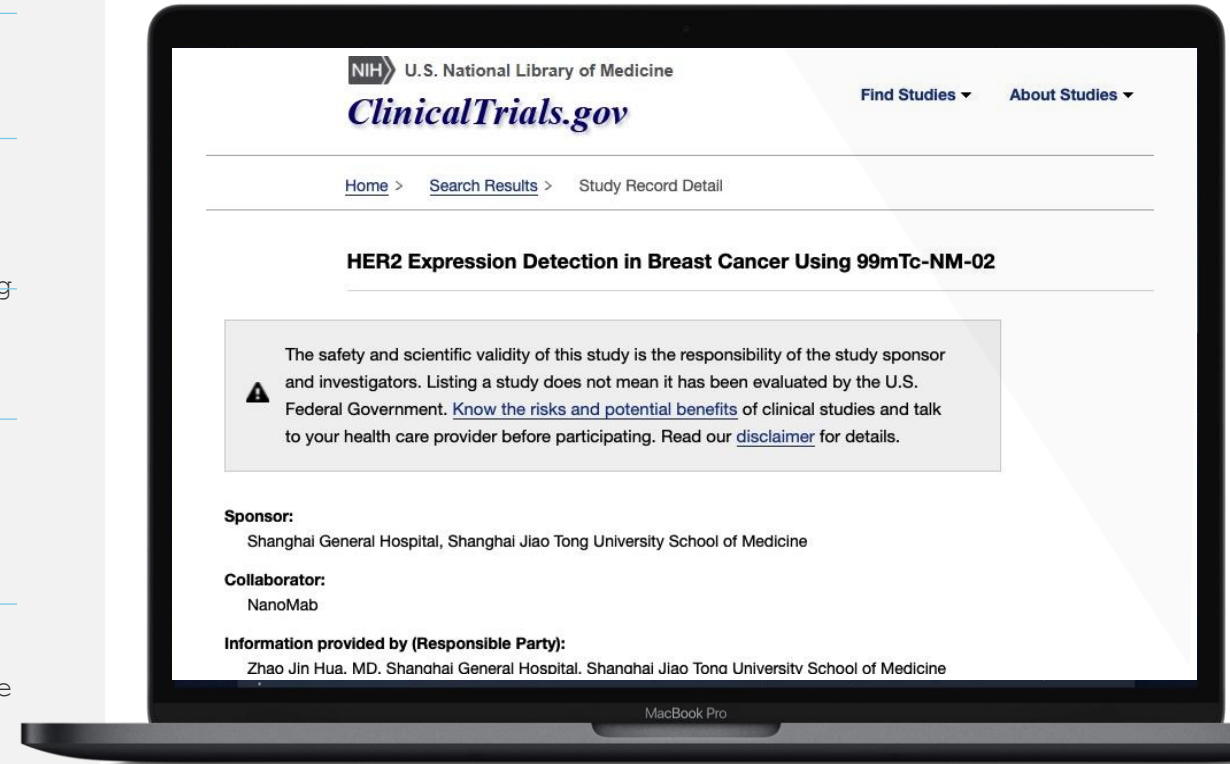
~~This therapeutic product is paired with a diagnostic, using the same antibody vector but labelled with a lower radiation radioisotope for imaging~~

Initial targets are HER-2 for breast cancer, PD-L1 for non small cell lung cancer, TROP-2 for TNBC, PTK7 for multiple solid tumours.

A Phase 1 imaging study for HER-2 breast cancer has been completed on 33 patients in Shanghai & Germany. A Phase 1 therapeutic compassionate use study is expected to dose the first patient before December 2021

A Phase 1 imaging study for PD-L1 in NSCLC has been completed in 40 patients in Shanghai & London

UNIKLINIK
RWTHAACHEN



AVβ6 INTEGRIN PHASE 1 IMAGING N=10

AVβ6 Integrin

Phase 1 | N=10

AVβ6 is the invention of internationally regarded integrin expert Professor Johannes Notni, formerly at the Technical University of Munich and now Professor at Essen University

A Phase 1 compassionate use diagnostic clinical study is ongoing in Germany in pancreatic and head & neck cancer, with 10 patients to date. Published in European Journal of Nuclear Medicine Sep 2021.

AVβ6 is a strong and selective ligand for a cell surface protein called αvβ6-integrin. As such, it can accumulate in tissue areas characterized by high αvβ6-integrin levels

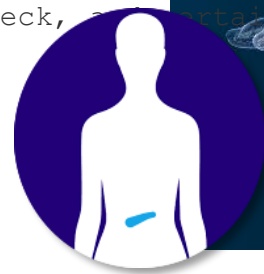
There is compelling evidence that αvβ6-integrin is found in many of the most challenging cancers, such as pancreatic carcinoma, cervical head-and-neck, and certain lung

AVβ6 offers an unparalleled performance for radiolabelling with Gallium-68

AVβ6 is a highly promising clinical candidate for early detection of the aforementioned conditions by PET imaging

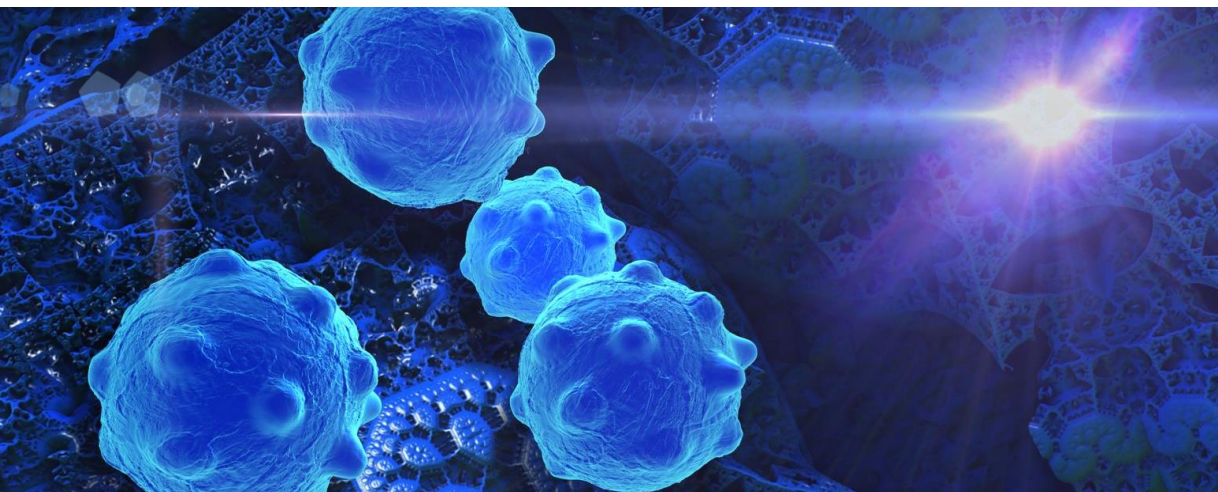
Our plan is to design & synthesise a number of conjugates for a therapeutic approach and enter clinical trials at the earliest opportunity

Radiopharm has entered into a three year Sponsored Research Agreement with Professor Notni and his scientific team to develop a therapeutic application at the earliest opportunity



2ND GEN PSA-mAb ANTIBODY PRE-CLINICAL

PSA-mAb
Pre-clinical



Proprietary humanized monoclonal antibody (hu PSA), capable of targeting free human prostate kallikrein (PSA) in prostate cancer cells and internalizing payload.

PSA-mAb is the discovery of Prof David Ulmert formerly of Memorial Sloan Kettering and now UCLA. An earlier generation of this antibody h11B6 invented by Prof Ulmert was sold to Janssen in 2020 for approx. USD\$100m *

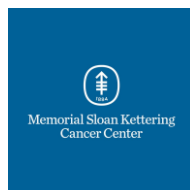
The antibody platform enables a radiotheranostic applicable therapy of prostatic cancer through radioimmunotherapy as well as diagnostics of advanced prostate cancer.

10 000-fold + higher expression of KLK3 (PSA) in prostate tissue, compared to other tissue.

[225Ac]-hu PSA results in curative treatment by sustained tumour regression and a significant increase in median survival time.

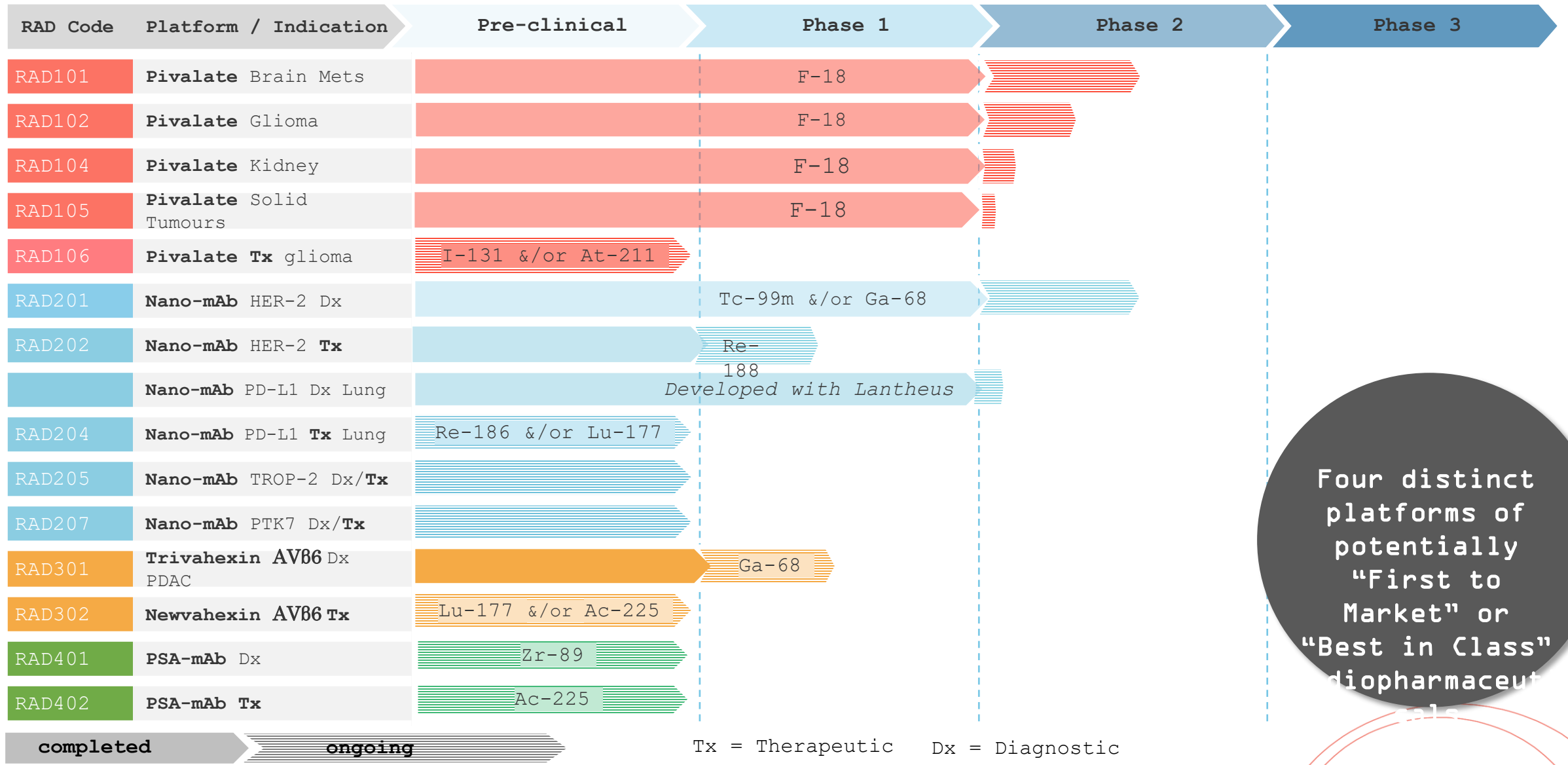
Developability data demonstrates a stable humanized antibody, without signs of degradation and aggregation.

IP-portfolio includes issued patent and applications for substance matter for imaging and therapy with hu PSA



*LUND, Sweden, Jan. 21, 2020 /PRNewswire/ -- Diaprost entered into an exclusive Research and Option Agreement with a Top 10 Pharmaceutical company strategic partner in October 2017. Diaprost now announces that its strategic partner has exercised its option to acquire rights to its h11B6 antibody. An upfront payment and research funding has already been paid and an early-stage clinical trial has been initiated. In payments made prior to option exercise, Diaprost received \$13M. The option fee and potential future payments, including commercial milestones, for its h11B6 antibody for prostate cancer may be up to \$90 million. No royalties are payable.

RAD CLINICAL DEVELOPMENT PIPELINE



Four distinct platforms of potentially "First to Market" or "Best in Class" radiopharmaceuticals

EXECUTIVE LEADERSHIP TEAM



RICCARDO CANEVARI

MANAGING DIRECTOR / CEO

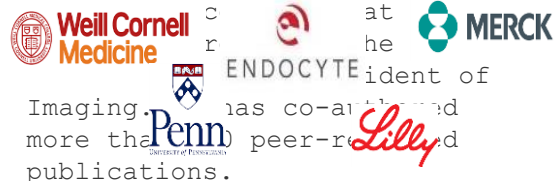
Riccardo was most recently Chief Commercial Officer of Novartis company Advanced Accelerator Applications, one of the leading radiopharmaceutical and nuclear medicine companies globally. He was responsible for global commercial strategy and country organisations in ~20 countries across North America, Europe and Asia. He was lead for Lutathera in-market growth strategy and execution to build a blockbuster asset and lead on the prelaunch plan for Lu-PSMA 617 in metastatic prostate cancer. Prior to this he was Senior VP and Global Head, Breast Cancer Franchise for Novartis Oncology from 2017, overseeing the launch of major breast cancer products including KISQALI and PIQRAY. He has held various management roles with Novartis Pharma and Ethicon/Johnson & Johnson.



PROF DAVID MOZLEY

CHIEF MEDICAL OFFICER

David was most recently at Cornell University where he was Prof of Nuclear Medicine, Medical Director of the imaging research centre, and Director of the Multi-Center Clinical Translational Science Center. He was an active member of the ethics board and a past chair of the Cornell ethics board for cancer research. He has participated in over 60 clinical trials at Eli Lilly and over 100 trials at Merck in novel radio-pharmaceutical or drug development. He was the principal investigator of 11 first-in-human studies of novel radiopharmaceuticals at the University of Pennsylvania, and the sponsor of nine investigational



DR THOM TULIP

CHIEF TECHNICAL OFFICER

Thom has spent more than 25 years in the development and commercialization of radiopharmaceuticals and imaging agents. He has served in senior leadership roles at Navidea BioPharmaceuticals Inc, Alseres Pharmaceuticals, Lantheus Medical Imaging (LMI), Bristol Myers Squibb (BMS), and DuPont. He was a Board Member of the Academy of Molecular Imaging and Chairperson of its Institute for Molecular Technologies.



PAUL HOPPER

EXECUTIVE CHAIRMAN

Paul is the Founder of Radiopharm Theranostics. 25 years experience in biotech, healthcare and life sciences focused on start-up and rapid growth companies. Previous and current Boards include Imugene, Chimeric Therapeutics, Viralytics (sold to Merck in 2018 for \$500m), Prescient, Polynoma, Suda Pharmaceuticals.



RECENT IPOS IN RADIOPHARMACEUTICAL SPACE

NOV 2020

\$1.1B gross proceeds



SEP 2019

\$250M gross proceeds



JUN 2020

\$212.5M gross proceeds



JUN 2020

\$144M gross proceeds



AUG 2021

A\$92M gross proceeds



DEC 2020

\$98.6M gross proceeds



SEP 2020

DKK273M gross proceeds



SEP 2018

\$96M gross proceeds



KEY ACQUISITIONS IN RADIOPHARMA SPACE

JAN 2018
US\$3.9B



Approved ✓

DEC 2018
US\$2.1B



Phase 3 >>>

JUN 2019
US\$450M +



Approved ✓

MAR 2021
US\$300M

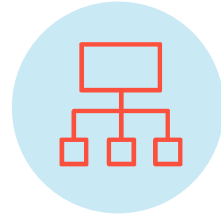


Phase 3 >>>

INVESTMENT SUMMARY



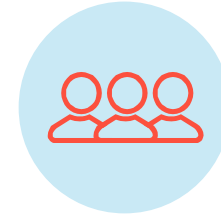
Radiopharmaceuticals experiencing a high level of investor interest and M&A activity globally including China



Radiopharm's portfolio is a balanced pipeline with risk diversification - many shots on goal



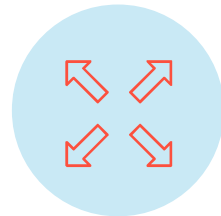
Over 130 patients treated to date across seven clinical trials. Multiple programs already in the clinic



World class management team including CEO, CMO & CTO from some of the most prestigious radiopharmaceuticals companies & universities globally



Regular news flow arising from numerous projects



Broad and robust IP portfolio



Established links into China with two Phase 1 trials completed at Shanghai General Hospital



Maintain opportunistic Business Development strategy

CONTACT US

Riccardo Canevari
CEO & MANAGING DIRECTOR
Radiopharm Theranostics Limited
T +1 862 309 0293
E rc@radiopharmtheranostic.com
W www.radiopharmtheranostics.com

Paul Hopper
Executive Chairman
Radiopharm Theranostics Limited
T +61 406 671 515
E paulhopper@lifescienceportfolio.com
W www.radiopharmtheranostics.com

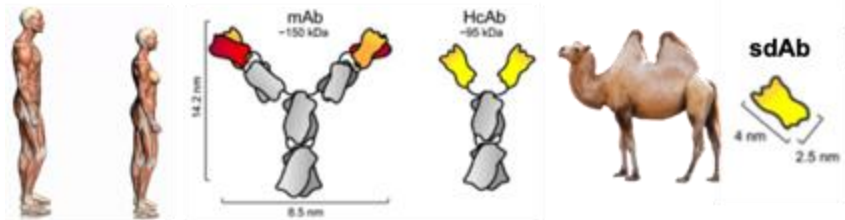


Back up - Scientific
Deep dive



NANO-MABS PHASE 1 & PHASE 2 N=73

Platform: sdAb



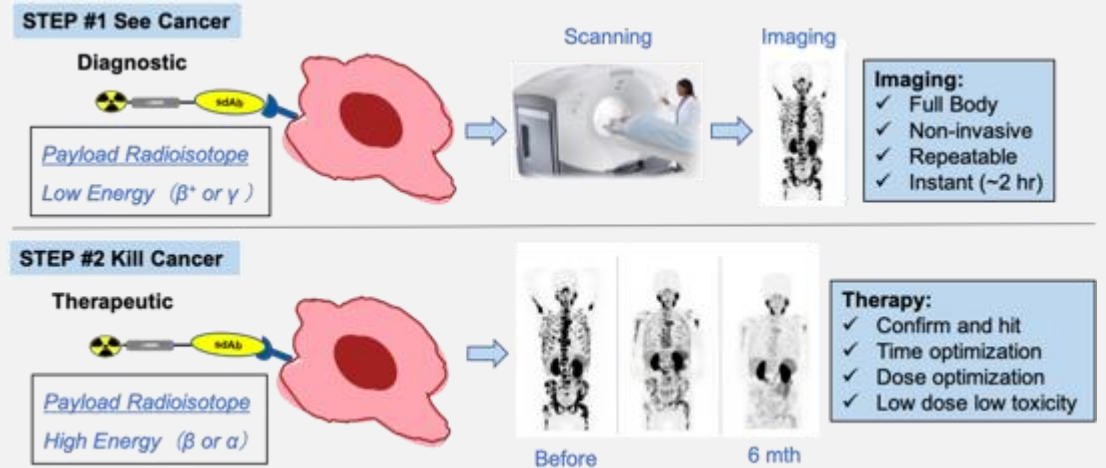
Human Antibody → sdAb (Camelid Antibody)

Highly Stable	New Binding Domain	Faster Imaging Turnaround	Good Tumor Penetration and Retention	Customized Manipulation	Easy Manufacturing
Temperature and pH Resistant	Smaller Size for More Binding Options	Rapid Blood Clearance with Kidney	Smaller Size and Higher Affinity	Multivalent and Radiolabeling	Low Cost Production (<i>Pichia/E.coli</i>)

A therapeutic product is made by a genetic engineered camelid antibody labelled with a radioisotope of therapeutic radiation.

This therapeutic product is paired with a diagnostic, using the same antibody vector but labelled with a lower radiation radioisotope for imaging.

Application: Theranostic



Initial targets are HER-2 for breast cancer, PD-L1 for Non-Small Cell Lung Cancer & TROP-2 for Triple Negative Breast Cancer

HER-2 PHASE 1 BREAST IMAGING COMPLETE N=33

Nano-mAbs

Phase 1 | N=74

Phase 1 imaging has been completed on 33 patients with Technetium-99m: 30 in Shanghai; 3 in Germany

Non-invasive and demonstrated safety

Accumulation / high uptake in target within 2 hours post injection

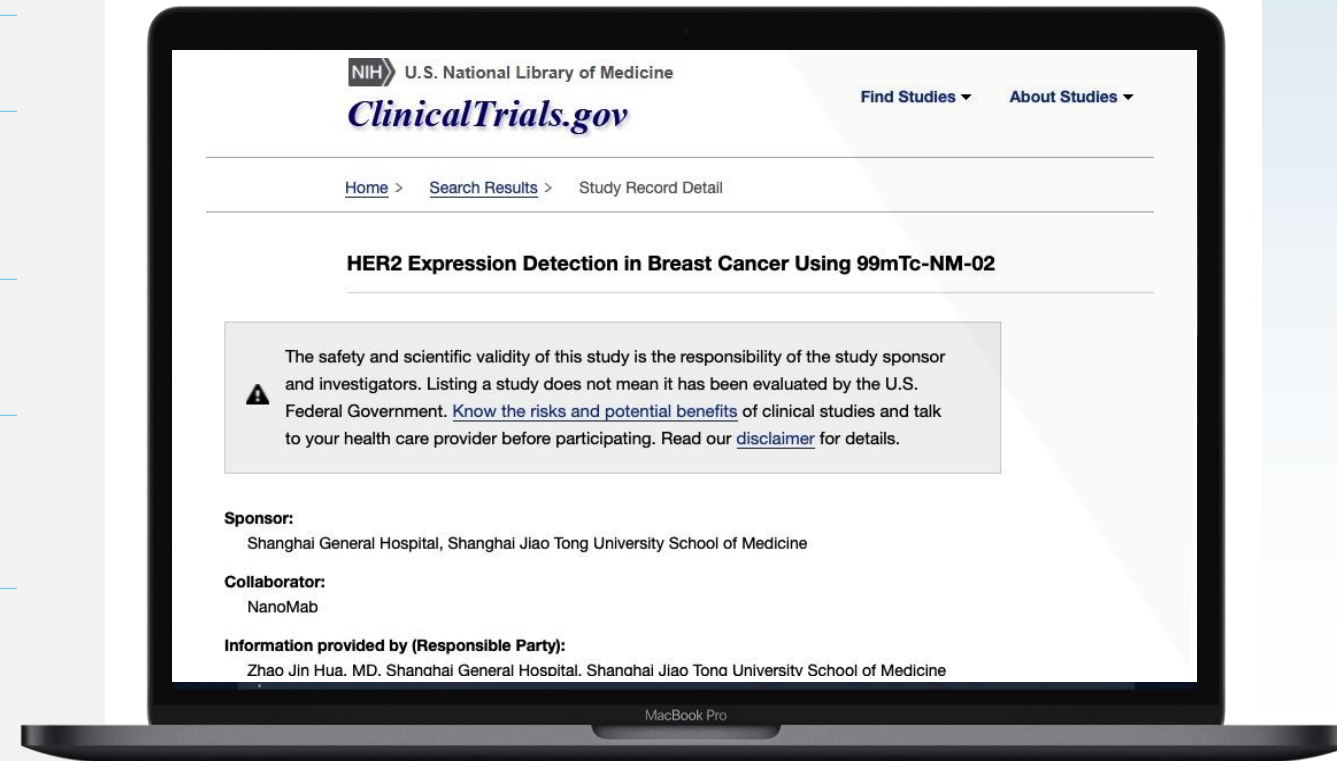
Acceptable biodistribution and dosimetry (Renal protection can be achieved by standard pre-injection of gelufusin/amino acids mixture)

Shows clear intra- and inter-tumoural heterogeneity of HER-2 expression.

Provide more accurate, and informative information on HER-2 cancers in comparison to existing IHC / FISH detections from biopsy samples.

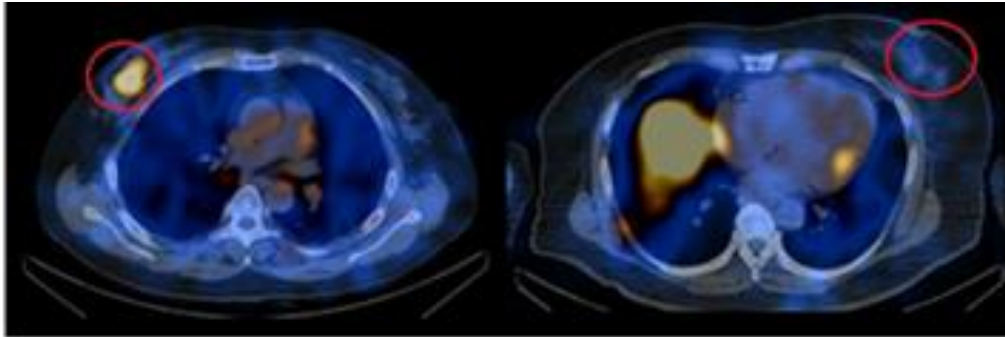
Potential to be used for whole body assessment and treatment of HER-2+ cancers with different medical radioisotopes

UNIKLINIK
RWTHAACHEN



HER-2 PHASE 1 BREAST THERAPEUTIC COMMENCING

Nano-mAbs
Phase 1 | N=74



HER2 3+

HER2 0

UNIKLINIK
RWTHAACHEN



Curanosticum
Wiesbaden · Frankfurt

Phase 1 therapeutic about to launch in late stage HER-2+ breast cancer at Aachen and Curanosticum Centres in Germany with Re-188 , and Lu-177

1st patients dosing ~September/October 2021

Can be easily adopted for therapeutic with Re-186, Lu-177 or Ac-225

High Probability of success as a therapeutic agent:

- Patients' safety data
- Same targeting as imaging but just change of war-head (Tc-99m to Re-188, or Ga-68 to Lu-177)
- Re- and Tc- structural and reaction chemistry is the "same" - easy conversion.
- Apply to patients with good images and dosimetry - SEE then TREAT

PD-L1 PHASE 1 NSCLC IMAGING COMPLETE N=40

Nano-mAbs
Phase 1 | N=74

PD-L1 is a pan-cancer biomarker, and immuno-checkpoint blockers are becoming the most important treatment of multiple cancers

Imaging technology is licensed to **Lantheus** for research collaborations in diagnostic imaging

Worldwide exclusive license to Radiopharm for therapeutic use

Imaging done on 40 lung NSCLC patients: in Shanghai General and at Kings College London

Approved for Phase 2 Imaging Clinical Trial by MHRA

DMF for Imaging filed with FDA in US

Easy adopted for therapeutic

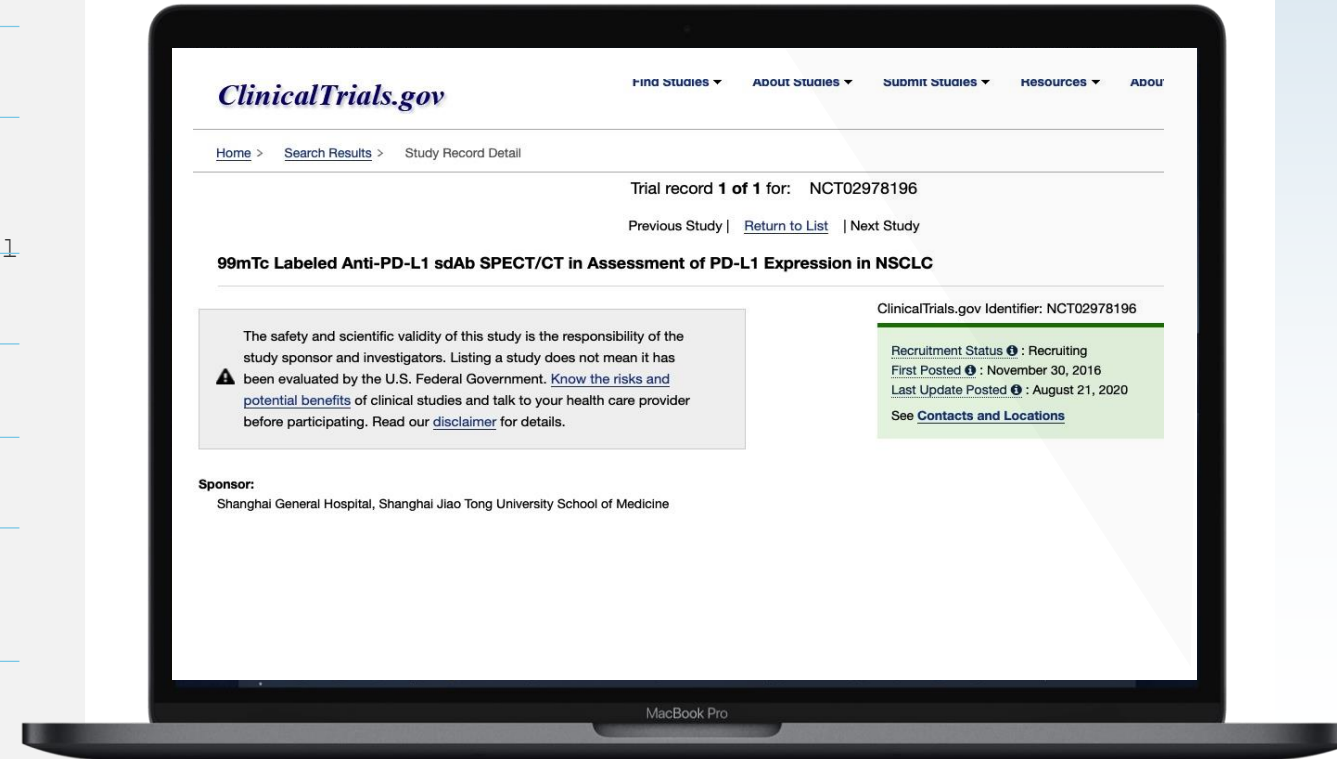
High Probability of success as therapeutic agent: Patients safety data; same cold kit as imaging but just change of war-head

Apply to patients with good images - SEE than TREAT

KING'S
College
LONDON



Lantheus
Medical Imaging



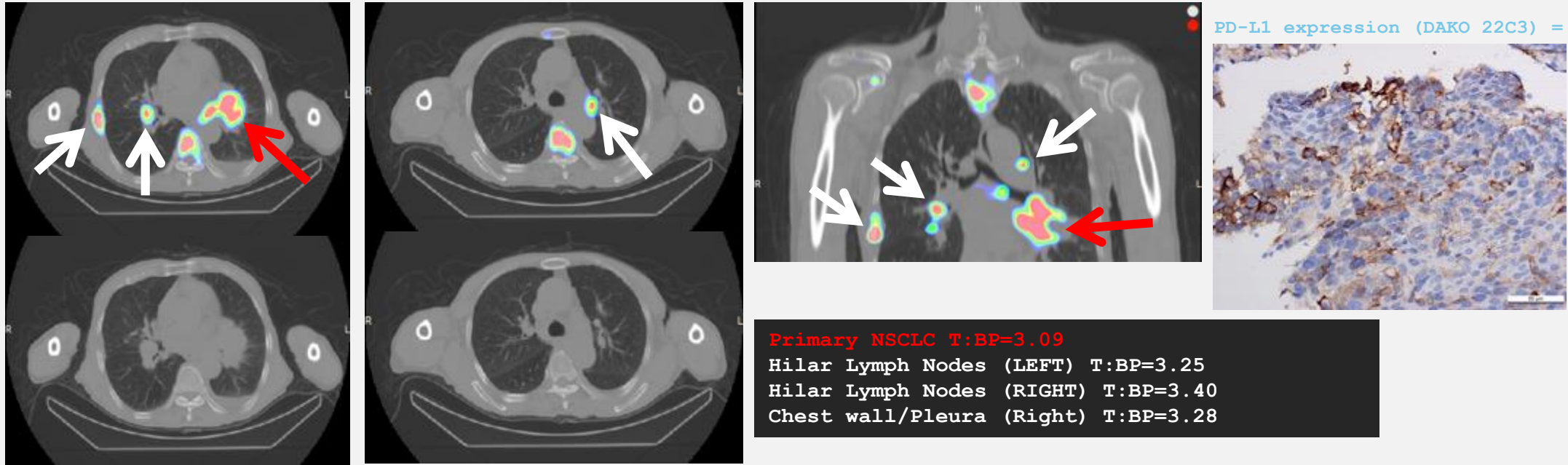
PD-L1 CLEAR UPTAKE & ADVANTAGES

OF IMAGING V. BIOPSY

Nano-mAbs

Phase 1 | N=74

TC002-High PD-L1 expression within Primary tumour and Multiple Mets



SPECT-CT ^{99m}Tc-NM-01 2hr pi

Patient TC002: Male, 75 YO, chest x-ray showed lung shadow, CT scan confirmed multiple lesions. Biopsy confirmed squamous cell carcinoma, a lower left lobe lung hilar tumour, 44 x 48mm is size with multiple metastases, nodal and distant. ^{99m}Tc-NM-01 scan results had uptake in primary tumour (T:BP = 3.09) (2h) and multiple metastatic lesions (2h) all >2.3 cut-off, therefore, a strong positive image. PD-L1 IHC likely understated PD-L1 expression for this patient, PD-L1 treatment prognosis for such a patient is expected to be favourable, though further investigation is required.

TROP-2 AND PTK7 PRE-CLINICAL CANDIDATES

TROP-2

Target	tumour-associated calcium signal transducer
Gene	TACSTD2
Cancer Hallmarks (MoA) :	Sustaining proliferative signaling; Activating invasion and survival
Indications:	TNBC, SCLC, NSCLC, HNSCC Pancreatic/Colorectal/Gastric/Ovarian/Prostate Cancer (6.4M overall new cases/year)

Current Status of Development:

High Binding Candidates selected

- Preclinical theranostic required (6 months)
- Clinical samples (+6 months)
- First-in-human imaging within 12 months

PTK7

Target	Protein Tyrosine Kinase 7
Gene	PTK7
Cancer Hallmarks (MoA) :	Activating invasion and metastasis; Inducing angiogenesis
Indications:	TNBC, Ovarian Cancer, NSCLC, Colorectal (2.6M overall new cases/year)

Current Status of Development:

High Binding Candidates selected

- Preclinical theranostic required (8 months)
- Clinical samples (+6 months)
- First-in-human imaging within 14 months

PET/CT imaging of pancreatic carcinoma

AV β 6-specific peptide

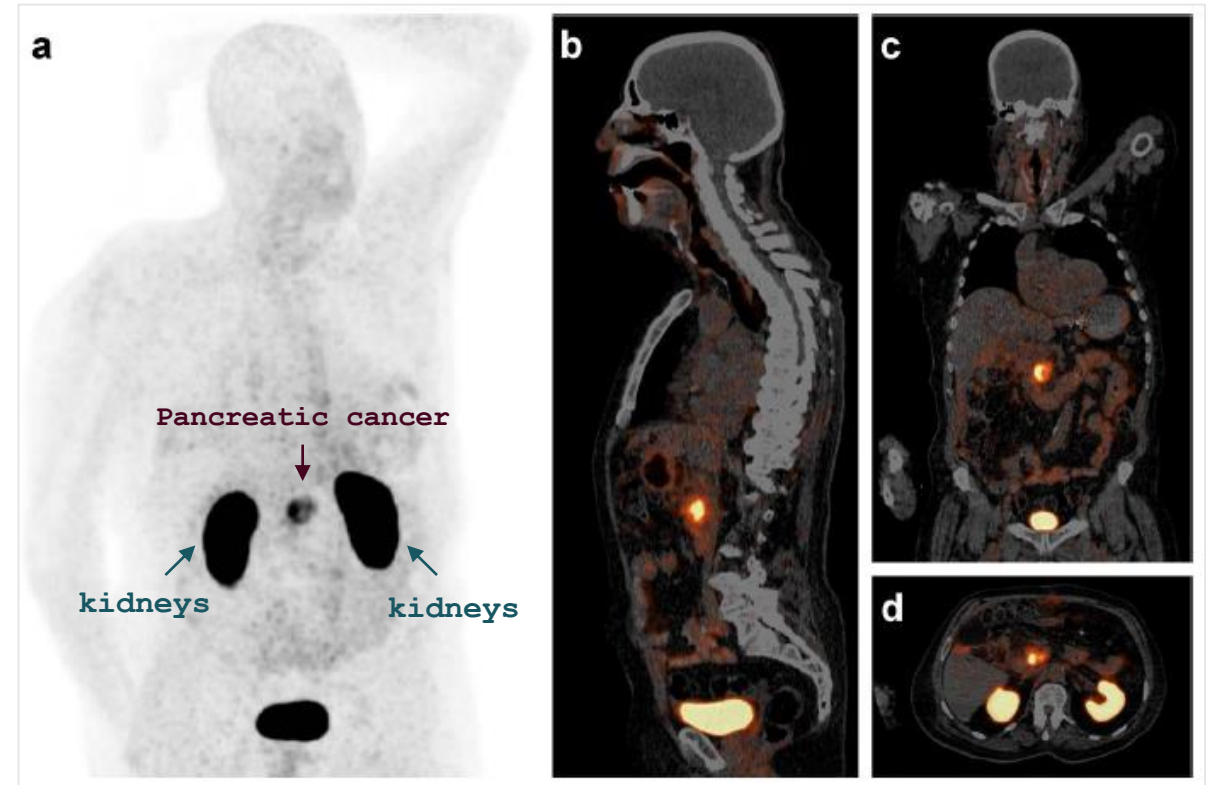
PET/CT image of solitary tumour in pancreatic head

Pancreatic ductal carcinoma confirmed histologically

Prominent signals are observed only in kidneys and urinary bladder due to rapid renal excretion

No relevant uptake is seen in head & neck, lungs, stomach, liver, and intestines

Potential applications for PDAC and other carcinomas (head-and-neck squamous cell, lung adenocarcinoma, colon, cervical, mammary).



Reference:

Quigley, N.G., Czech, N., Sendt, W. et al. PET/CT imaging of pancreatic carcinoma targeting the "cancer integrin" $\alpha\beta$ 6. *Eur J Nucl Med Mol Imaging* (2021).

<https://doi.org/10.1007/s00259-021-05443-8>

AVβ6 BEST-IN-CLASS: PHASE 1A COMMENCED

AVβ6-Integrin

Phase 1 | N=10

BIODISTRIBUTION GENERALLY (HEALTHY SUBJECT COMPARISON)

[¹⁸F]FP-R01-MG-F2

Unacceptable biodistribution

Considerably high background due to the unspecific distribution

Hepatobiliary excretion - how to detect PDAC or its mets in abdominal region?

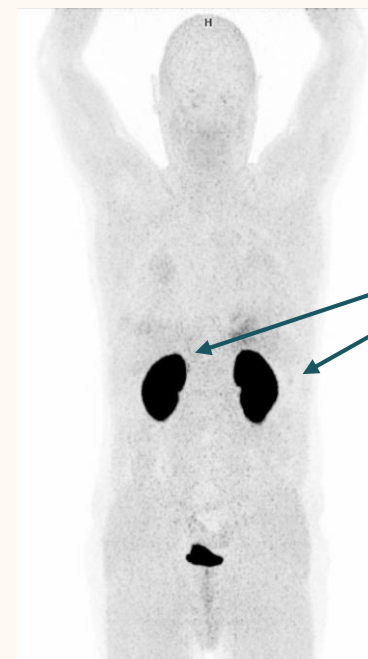
Direct transformation into a therapeutic close to impossible. Completely new research to be started.



Healthy subject

Kimura, Gambhir et al.,
Nat. Commun.
2019;10:4673.

AVβ6 Integrin



No deposition in healthy tissues

Exclusively renally excreted

The formal, for-registration Phase I trial will begin in 2022

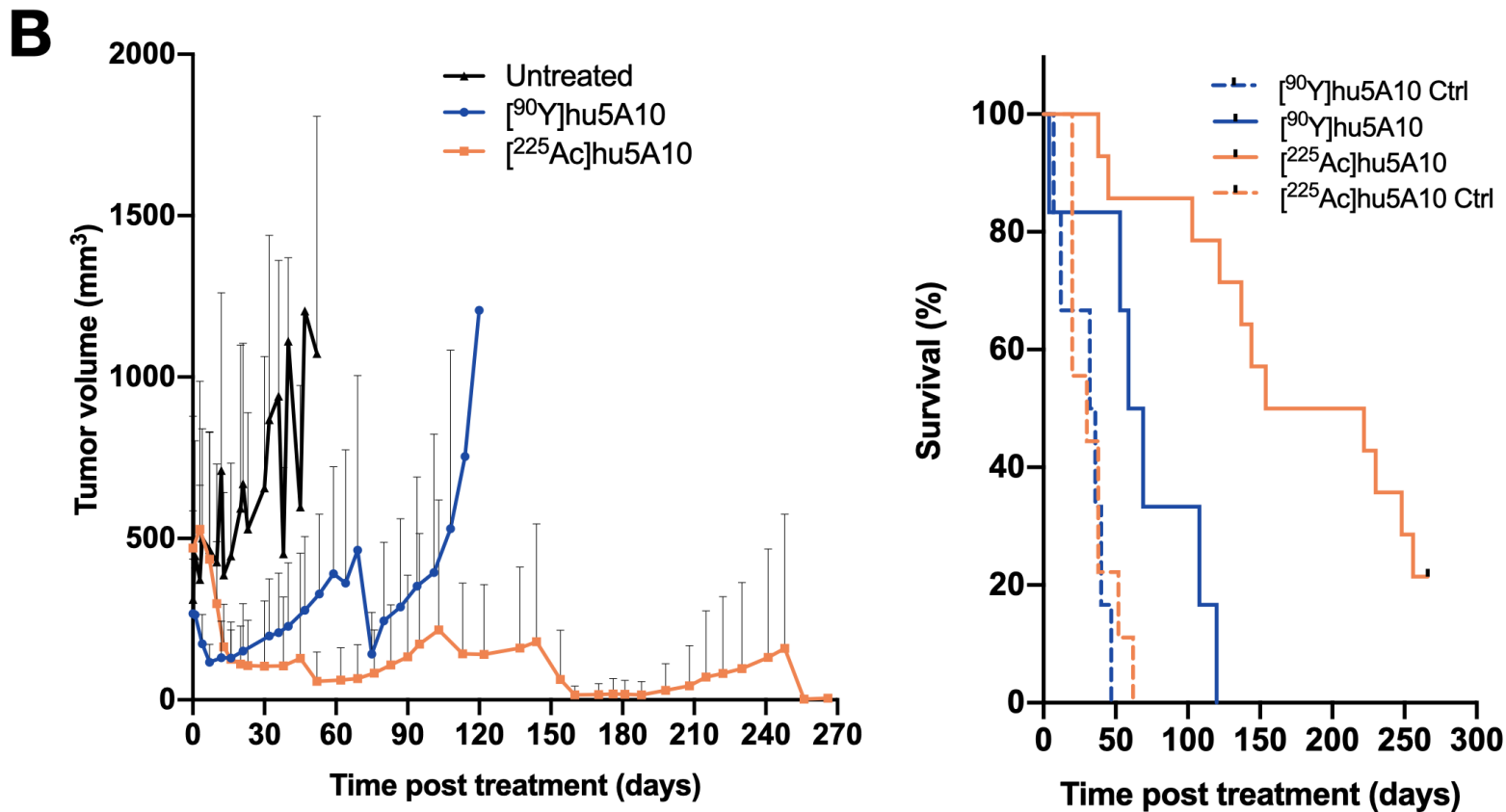
Healthy subject
90 min p.i.

Quigley et al., unpublished results

THERAPY SUSTAINED TUMOUR REGRESSION

AND A SIGNIFICANT INCREASE IN MEDIAN SURVIVAL TIME

Prostate mouse model

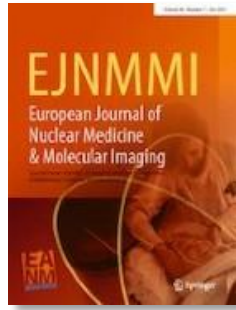


While beta-emitting [⁹⁰Y]hu PSA had a more immediate effect on tumour volume, treatment with [²²⁵Ac]hu PSA resulted in sustained tumour suppression and provided a significant increase in median survival time.

The faster response time seen in Yttrium-90 treatment could be attributed to the difference between the chosen radionuclides in half-life and path length.

PEER REVIEWED PUBLICATIONS

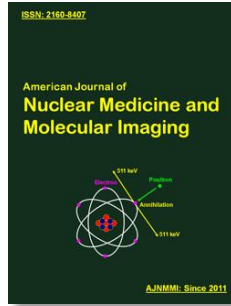
2021



[Eur J Nucl Med Mol Imaging.](#)
2021 May;48 (5) :1371-1389

HER2-directed antibodies, affibodies and nanobodies as drug-delivery vehicles in breast cancer with a specific focus on radioimmunotherapy and radioimmunodiagnosis

2021



[Am J Nucl Med Mol Imaging](#)
2021;11 (3) :XXX-XXX

Preclinical development and characterisation of ^{99m}Tc-NM-01 for SPECT/CT imaging of human PD-L1

2021



[Clin Cancer Res.](#)
2021 Apr 1;27(7) :2050-2060

PSA-targeted Alpha-, Beta-, and Positron emitting immunotherapeutics in murine prostate cancer models and non human primates

2021



[Nat Rev Urol.](#)
2021 Mar;18 (3) :131

Radiotherapeutic targeting of fPSA

2020



[Drug Discov Today.](#)
2020 Dec;25 (12) :2074-2075

Why next generation radiopharmaceuticals will play a key role in the quest for precision medicine

2020



[EJNMMI Res.](#)
2020 Dec 1;10 (1) :145

Inter- and intraobserver agreement of the quantitative assessment of [^{99m}Tc]-labelled anti-programmed death-ligand 1 (PD-L1) SPECT/CT in non-small cell lung cancer

2019



[J Nucl Med.](#)
2019 Sep;60 (9) :1213-1220

Early Phase I Study of a ^{99m}Tc-Labeled Anti-Programmed Death Ligand-1 (PD-L1) Single-Domain Antibody in SPECT/CT Assessment of PD-L1 Expression in Non-Small Cell Lung Cancer

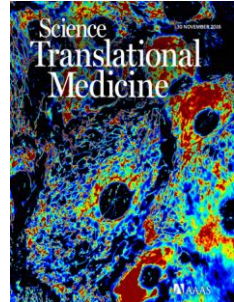
2016



[Expert Opin Biol Ther.](#)
2016 Aug;16 (8) :1035-47

Targeted alpha therapy using short-lived alpha-particles and the promise of nanobodies as targeting vehicle

2016



[Sci Transl Med.](#)
2016 Nov 30;8 (367)

Internalization of secreted antigen-targeted antibodies by the neonatal Fc receptor for precision imaging of the androgen receptor axis

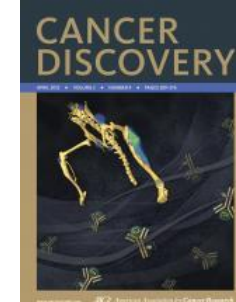
2014



[Expert Opin Drug Deliv.](#)
2014 Dec;11 (12) :1939-54

Radiolabeled nanobodies as theranostic tools in targeted radionuclide therapy of cancer

2012



[Cancer Discov.](#)
2012 Apr;2 (4) :320-7

Imaging androgen receptor signaling with a radiotracer targeting free prostate-specific antigen

2008



[Current Radiopharmaceuticals](#)
2008;1 (1) :37-41
99mTc-Labeled Nanobodies: A New Type of Targeted Probes for Imaging Antigen Expression