

The Next Generation of Radiopharmaceuticals in PDRadiopharma.Inc

Keiichi Masuya Ph.D.

Chief Operating Officer

Member of the Board

PeptiDream Inc

PeptiDream management team

Compact and flexible decision making

代表取締役社長 CEO





リード・パトリック

Patrick C. Reid, Ph.D.

Representative Director, President, Chief Executive Officer



舛屋 圭一

取締役副社長 COO

Keiichi Masuya, Ph.D.

Chief Operating Officer Director – Board Member



金城 聖文

取締役副社長 CFO

Kiyofumi Kaneshiro, Ph.D.

Chief Financial Officer Director – Board Member



Over 200 employees at current

Partnerships in Three Business Strategies of PeptiDream



_	2010-14	2015	2016	2017	2018	2019	2020	2021	2022
Collaboration	Bristol-Myers Squibb Dalichi-Sanlyo ANGEN SSC Claus/Smith/Cline We Mesubold Tanabe Pharma Astra Zonoca	SANOFI TEIJIN	SHIONOGI	Janssen 7	S anten	SHIONOGI	Bayer	Takeda	Genentech
Discovery and Development	Misubishi Tanabe Pharma AstraZeneca SIPSEN Innovation for policed core Liley	Kyorin (2) Genentech	Asahi KASEI	Bayer	Genentech	U NOVARTIS	MERCK Be well Takeda	2 Alnylam*	
PDPS Tech Transfer/ Licensing	Bristol-Myers Squibb	U NOVARTIS	Senentech Senentech	SHIONOGI	MERCK Be well MiraBiologics		TAIHO PHARMA	000 Ono Pharmaceutical Colito.	
In-House/ Strategic Discovery and Development			X UCR	MODULUS MEPTARES therapeutics Kawasaki Medical School BILL& MELINDA GATES foundation		POLA ORBIS HOLDINGS	PeptiGrowth RayzeBio PeptiAID AMOLYT		

Note: Historical footprint for company's press releases related to new alliance / partnership agreement as of Jun 30, 2022. Not including a press release about milestone achievement or progress for each program

PDC programs

Expanded programs

PeptiDream took over 100% of RI business in FUJIFILM

PeptiDream

News Release

September 2, 2021



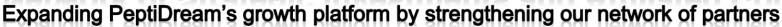
PeptiDream Inc. https://www.peptidream.com/ (Securities Code: 4587 TSE Section 1)

PeptiDream Agrees to Acquire FUJIFILM Toyama Chemical's Radiopharmaceutical Business from Fujifilm

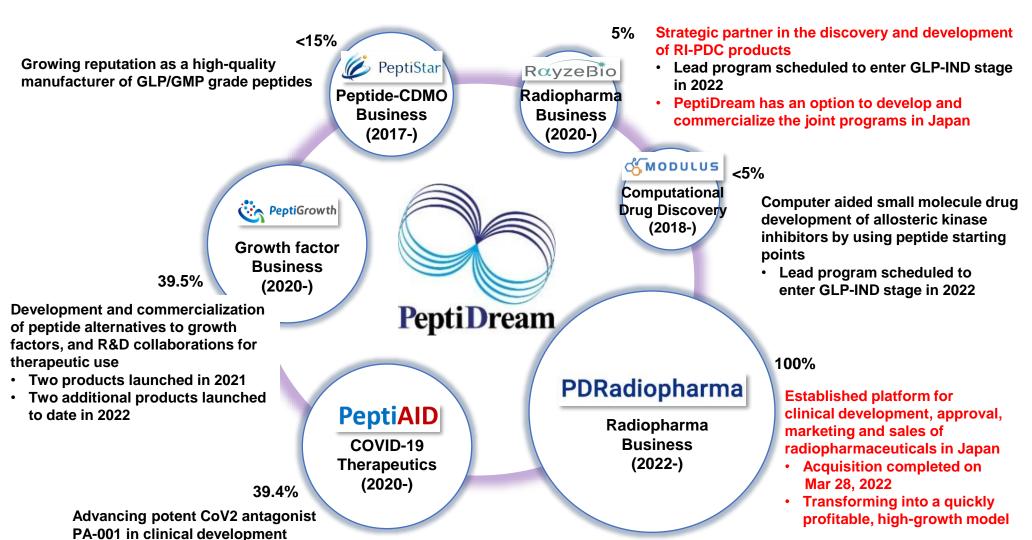
Combining PeptiDream's excellence in peptide drug conjugates
 with the Fujifilm Group's strength as a radiopharmaceutical platform in Japan —

KANAGAWA, JAPAN – September 2, 2021 – PeptiDream Inc., a public Kanagawa, Japan-based biopharmaceutical company ("PeptiDream") (Tokyo:4587), announced today that the Board of Directors has resolved to acquire all outstanding shares of a newly established company ("the New Company") that succeeds the radiopharmaceutical business ("the acquired business") of FUJIFILM Toyama Chemical Co., Ltd. ("FUJIFILM Toyama Chemical") through an absorption-type split, and to make the New Company a subsidiary of PeptiDream (the resolution is hereinafter referred to as "the acquisition") under the share purchase agreement signed with FUJIFILM Corporation ("Fujifilm").

Network of Strategic Investments and Affiliated Companies







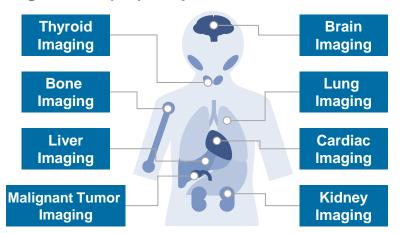
Key Products Portfolio Overview for Radiopharmaceutical area

Currently markets 24 diagnostic products and 8 therapeutic products (3 product categories) in Japan **PeptiDream**

Diagnostic and Therapeutic RI Products

Target Business provides medical Dx and Tx that are minimally invasive to our body

Diagnostics (Dx): 24 products



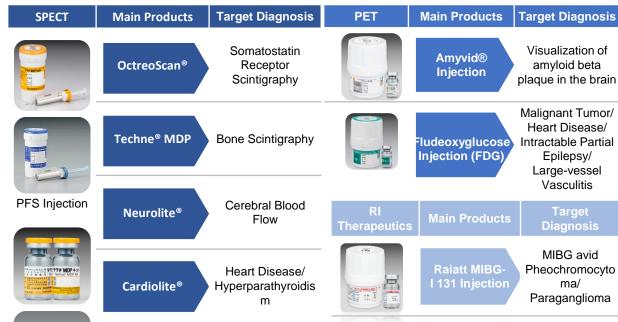
Therapeutics (Tx): 8 products (3 categories)







Key Product Portfolio





Cold Kit

MvoMIBG®

Ultra-

Techne Kow®

Heart Disease/ Pheochrom Ocytoma

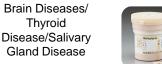


Indium Injection Set Confirmation of antibody accumulation site



Generator

TI201 **Heart Disease**



Injection Set

Low-grade non-Hodakin's B-cell Lymphoma/Mantl e Cell Lymphoma



Capsule

Hyperthyroidism/ Primary and Metastatic Thyroid Cancer

NHL: non-Hodgkin's Lymphoma, PPGL: Pheochromocytoma/ Paraganglioma Note: as of July 2022

Area of R&D in PeptiDream





Peptide

- Next-generation PD1/PD-L1 inhibitors
- Drugs for the treatment of COVID-19 and its variants: PA-001
- Growth hormone receptor (GHR) inhibitors: AZP-3813
- Numerous other programs under research and development



Small molecule

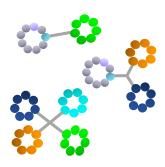
- · Anti-allergic agents
- Other multiple programs under research and development



PDC (Peptide-Drug Conjugate)

Targeted peptides that deliver a therapeutic payload

- Delivery to Cancer Cells/Tumors: RI-PDC (PDRadiopharma, BMS, RayzeBio, Novartis, Bayer; in negotiations with other major pharmaceutical companies)
- Delivery of payloads to brain and muscle (Takeda, In negotiations with other major pharmaceutical companies)
- Delivery of nucleic acid drugs to targeted tissues (Alnylam, negotiating with other major pharmaceutical companies)



MPC

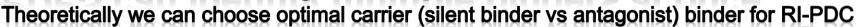
(Multi-functional Peptide Conjugate)

Combinations of functional peptides

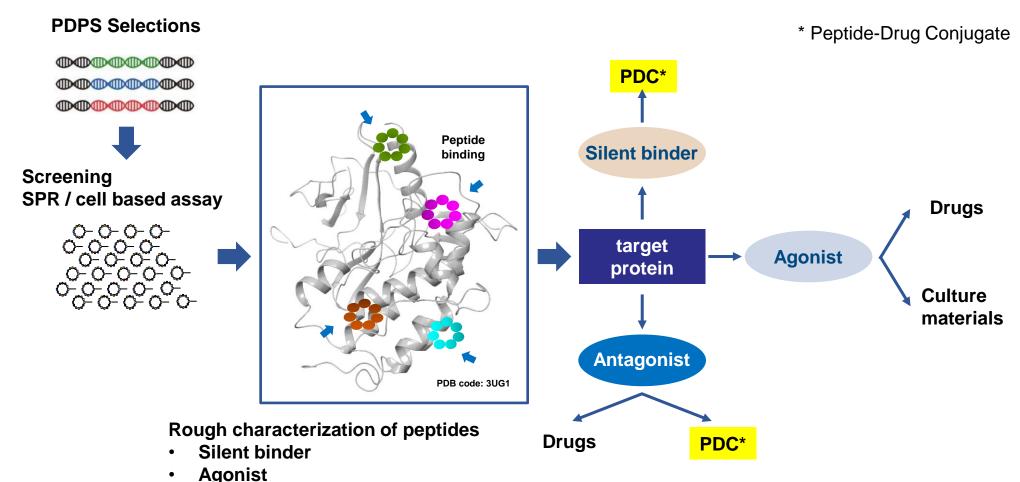
- CD38-ARMTM: BHV-1100
- Other programs under expansion
- Multidrug combinations (two or more agents) that cannot be expressed by Bispecific antibodies are feasible
- Avoidable immunogenicity/toxicity which is frequently observed in combination therapy of two or several antibodies
- The development period and cost can be significantly reduced compared to the combination therapy

PDPS can identify multiple binders at once

Antagonist







Synergistic impact to many projects and development of products!

Peptide-Drug Conjugate (PDC)

Deliver payloads to the desired tissue / targets using carrier peptides



Carrier:

Selectively deliver therapeutic payload to target tissue/cell

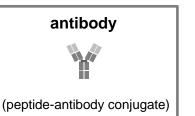


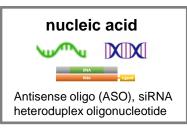
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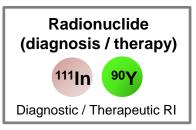
Linker:

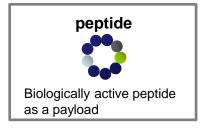
enzyme recognition site + spacer Contributes to the physical characteristics and PK of the entire PDC

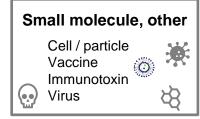
Payload: Elicit the desired therapeutic response











The advantages of peptides as a carrier

- Selectively deliver payload
- Variable PK profile by chemical modification
- Full control of drug-ratio
- Diverse molecule combination



> Delivery to tumor tissue

Alzheimer's disease, Parkinson's disease, brain tumor



Delivery to brain

Advanced / metastatic solid tumor (Pancreatic cancer, lung cancer, prostate cancer, etc.)

Delivery to muscle

Muscular dystrophy, myasthenia gravis



> Other

Driving the growth of other modalities through discovery of carrier peptides

A New treatment that Peptide-drug conjugate (PDC) open

Deliver payloads to the desired tissue / targets using carrier peptides



Peptide Drug Conjugate (PDC)



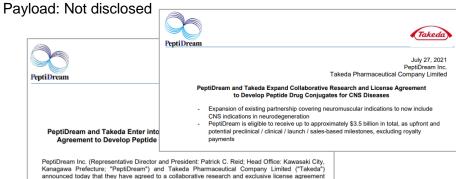
Carrier: Selectively deliver therapeutic payload to target tissue/cell Payload: Elicit the desired therapeutic response

Benefits of peptides as carriers

	ADC	PDC
Selectivity	0	0~0
Adjustment of human body retention time	Δ	0~0
Flexibility of payload	Δ	0
Control of the number of payloads	Δ	0
Tumor penetration	Δ	0
Easy to conjugate and production cost	Δ	0

Collaboration with Takeda Pharmaceutical Company Limited on neuromuscular and central nervous system diseases

Carrier: hTfR binding peptide

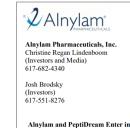


Collaboration with Alnylam Pharmaceuticals, nucleic acid Therapeutics pioneer and leading company

Carrier: Target binding peptides

to create peptide-drug conjugates (PDCs) for neuromuscular diseases.

Payload: siRNA



Peptil Pe

Alnylam and PeptiDream Enter into Collaboration Agreement to Discover and Develop Peptide-siRNA Conjugates for Targeted Delivery of RNAi Therapeutics to a Broader Range of Extrahepatic Tissues

 Agreement Combines PeptiDream's Peptide Discovery Platform to Identify High Affinity Peptide Ligands with Alnylam's Expertise in siRNA-Conjugate-Based Delivery and in Developing and Commercializing RNAI Therapeutics



Delivery to tumor tissue



PDRadiopharma Inc.





Delivery to brain / muscle





others



PeptiDream keeps rights of upcoming products in Japa

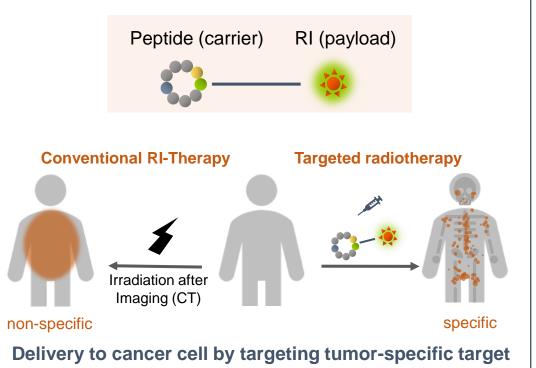
Delivering the next-generation of targeted radiotherapies through discovery of carrier peptides

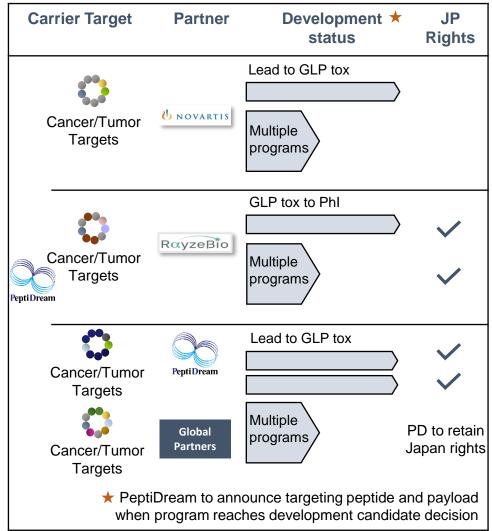






Highly selective carriers with ideal pharmacokinetic properties are essential





PeptiDream continues to grow its peptide-RI conjugate pipeline Acquisition of PDR Pharma allows PeptiDream to retain development and commercialization rights in Japan

PD and PDR manage RI-products from Bench to Market

Leveraging clinical data obtained outside Japan for efficient / accelerated development in Japan



Discovery/Optimization

Preclinical Studies

Clinical Development

Manufacturing/ Supply Chain Sales/ Marketing Anticipated Revenue After Launch



Drug Discovery of RI-PDCs

 Discovery and optimization of carrier peptides / RI-PDCs which deliver radioisotopes to the targeted cells/tissues







Out-license ex-Japan rights

Clinical dev., manufacturing and sales/ marketing

- Clinical trials
- Regulatory filings
- Manufacturing/ supply of RI-PDCs
- Sales/ marketing

(to PDR)



Development in Japan utilizing overseas data (Bridging/ global study)



Clinical development, manufacturing and sales/marketing outside Japan

- Overseas development and approval may precede domestic process
- Commercialization outside Japan by experts in the respective markets

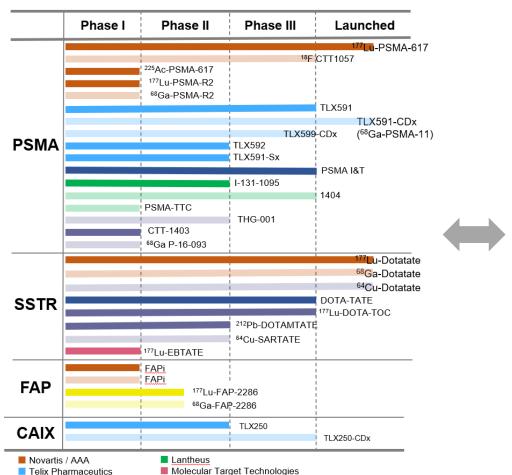
Sales Royalties (to PD)



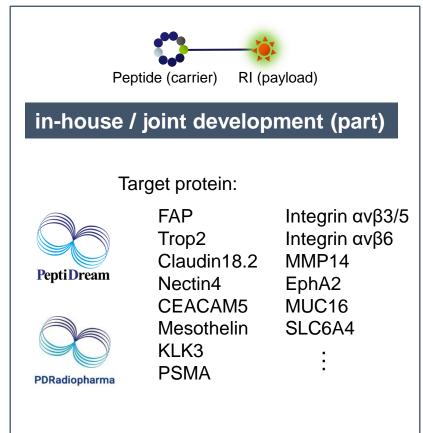


Delivering Next Gen Radiopharmaceuticals Worldwide





other pharmaceuticalsTherapy : Diagnosis



Domestic Market:

Point Biopharma

Clovis Oncology

- Expand in-house/in-licensing programs including near-term in-licensing of PSMA-RI
- Global Market:
 Maximizing value through joint development and out-licensing of in-house programs

Expansion of Capability under Planning

New research building will allow around 500 researchers



Summary

- PeptiDream fully commits Theranostics area in Japan through PDRadiopharma
- PD/PDR could manage a lots of PET and therapeutic RI-drugs with minimum drug-lag
- Domestic Market: Expand in-house/in-licensing programs
- Global Market: Maximizing value through joint development and out-licensing of in-house programs



Forward-Looking Statements



This presentation contains forward-looking statements. These forward-looking statements are current plans, forecasts, assumptions and strategies based on currently available information. There are various inherent risks as well as uncertainties involved. The actual results of business performance may differ from those forecasts due to various factors.

These factors include, but are not limited to: (1) risks of delays, interruptions or failures associated with drug discovery and development; (2) risks of unexpected program disruptions or terminations due to changes in client policies; (3) risks associated with manufacturing products and the procurement of raw materials; (4) the impact of reduced competitiveness due to the competitors and competing technologies; (5) declining product sales capabilities; (6) adverse rulings in infringements or significant litigation against our Group's intellectual property rights; (7) adverse changes in economic conditions and related laws and regulations; and (8) fluctuations in interest rates and currency exchange rates.

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