NON-CONFIDENTIAL

FY2022 Financial Results

12-month period ended December 31, 2022

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References to "FY" in this presentation for periods prior to 1 January 2018 are to the 12-month periods commencing in each case on April 1 of the year indicated and ending on March 31 of the following year, and the 9 month period from April 1 2017 to December 31 2017. From January 1 2018 the Company changed its fiscal year to the 12-month period commencing in each case on January 1. References to "FY" in this presentation should be construed accordingly.

Agenda

1. Financial Results
2. Strategy Updates
3. Operational Highlights
4. R&D Progress
5. Objectives for FY2023 and beyond
6. Appendix

Note: This material was created to explain the details of our company and is not intended to be used for investment decisions. In addition, the contents reflect the views of our company at the time of the creation of the material, and the accuracy of the information is not guaranteed. Investments should be made based on the independent views of investors

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FY2022 Financial Results

Hironoshin Nomura, CFO

Financial Summary for FY2022

Strong revenue & cash generation in 2022 combined with continued investment in R&D

1. **2022 Revenue of ¥15,569m ($119m)** vs. ¥17,712m ($161m) in the prior year.
   2021 revenue included a $100m upfront fee (Neurocrine) whereas 2022 included two significant but smaller upfront fees of $35m. This decrease in upfront fee revenue was partially offset by an increase in milestone income.

2. **2022 Operating Profit of ¥3,436m ($26m)** vs. ¥3,775m ($34m) in the prior year.
   2022 Core Operating Profit of ¥5,856m ($45m) vs. ¥8,904m ($81m) in the prior year.
   This reflects the decrease in Revenue and an increased Core R&D of ¥1,324m ($2m), in line with our strategy.

3. **2022 Net Profit of ¥383m ($3m)** vs. ¥1,017m ($9m) in the prior year.
   The current year includes a non-cash charge of ¥1,836m ($14m) for impairment of the Group's investment in an associated company, MiNA.

4. **¥67bn cash balance ($507m)** as at Dec 31, 2022
   The majority of which is earmarked for acquisitions and in-licenses to accelerate our growth.

Note: USD:JPY FX rates used – 131.30 (Average rate YTD 2022) and 110.16 (Average rate YTD 2021)

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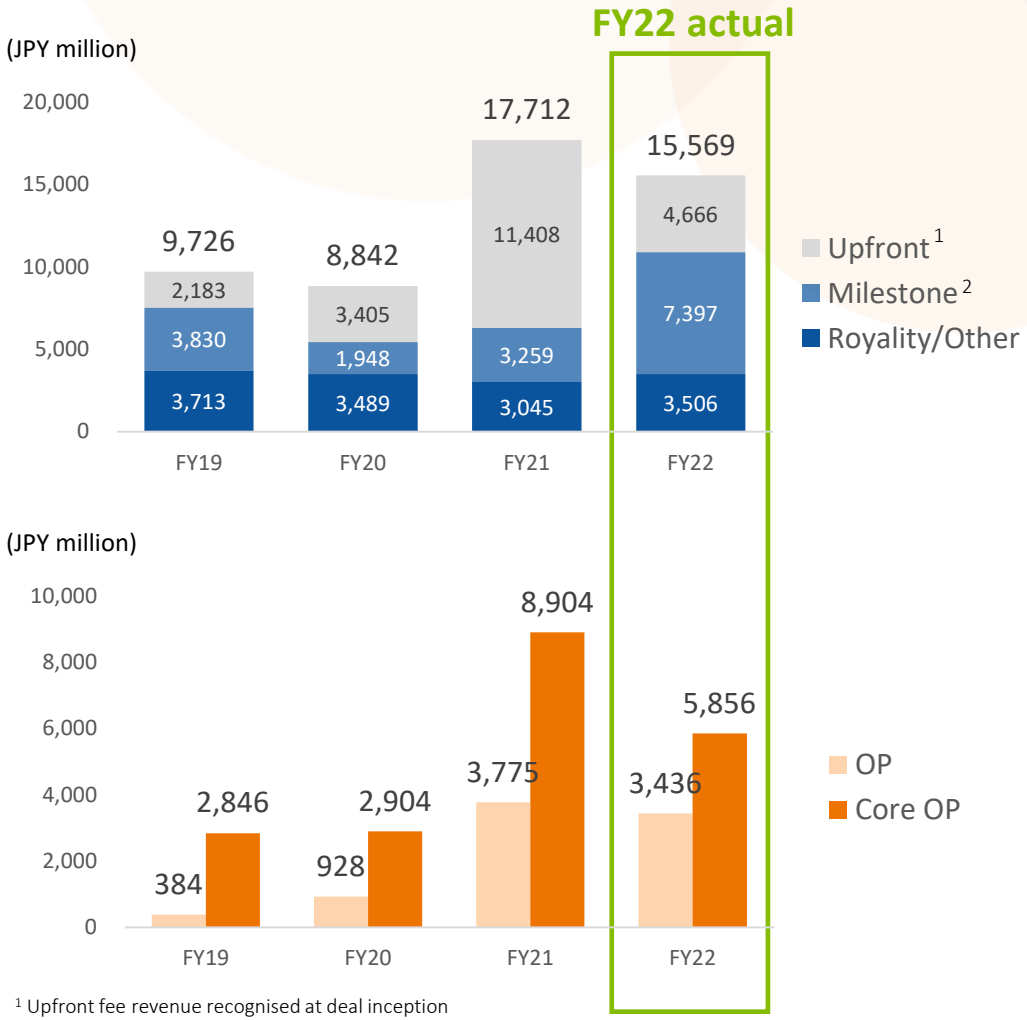
Key Financial Indicators

2022 Revenue lower due to inclusion of one substantial upfront fee in 2021



[1] Upfront fee revenue recognised at deal inception
[2] Milestone revenue recognised at milestone event + deferred revenue releases

Revenue

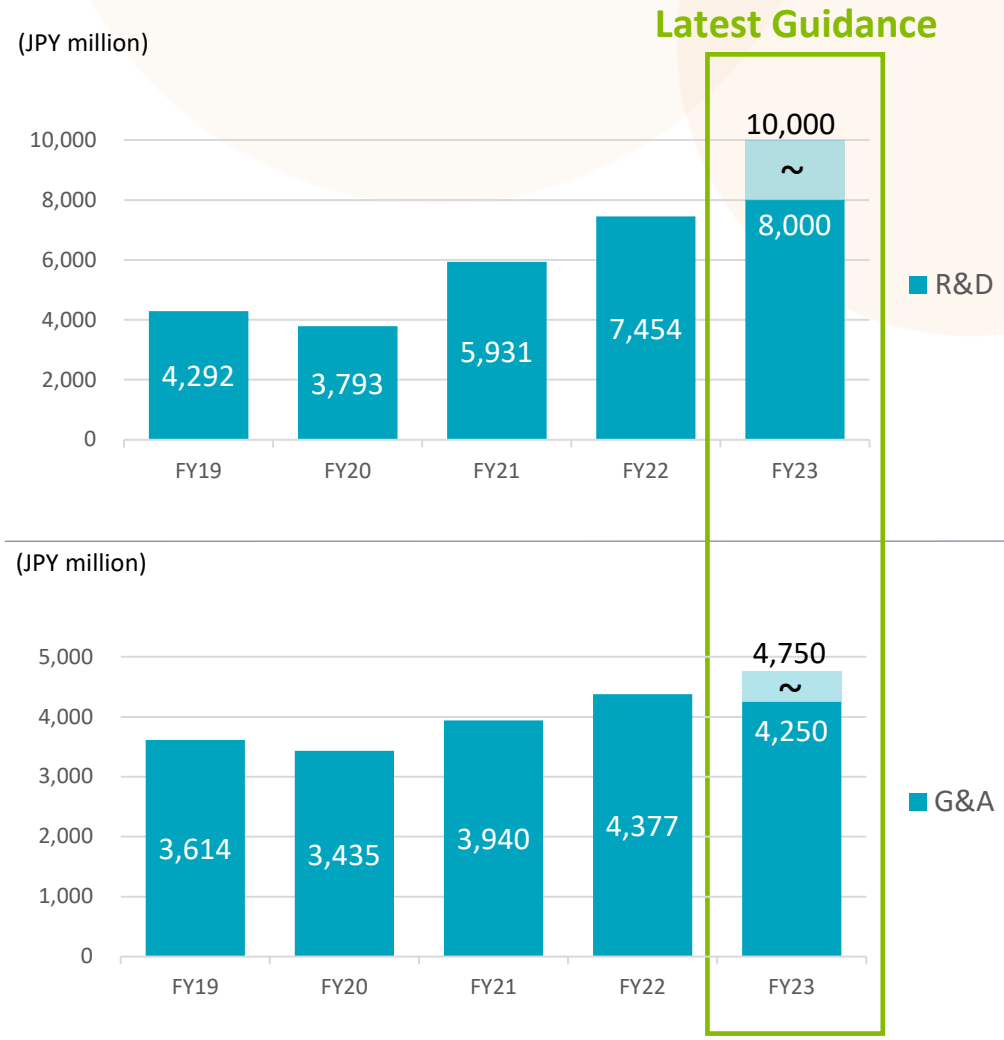
- Revenue can vary significantly year on year depending on the occurrence of milestone events and the signing of new collaborations agreements with upfront fees.
- Revenue decreased by JPY2,143m / $42m in 2022 vs. 2021 primarily due to inclusion of a substantial upfront fee from Neurocrine (JPY11,408m/$100m) in 2021.
- 2022 Revenue includes upfronts from:
  - a new partnership with Eli Lilly targeting diabetes and metabolic diseases
  - a new partnership with AbbVie targeting neurological diseases
- 5 milestones events were achieved in the 2022 (Takeda, Genentech, AbbVie, Pfizer and Neurocrine) generating a significant increase in this revenue stream.

Operating Profit

- Core R&D costs increased by ¥1,143m vs.2021 primarily due to higher activity on in-house programs, the impact of a stronger GBP vs. JPY and cost inflation.
- Core SG&A costs increased by ¥345m vs.2021 due to a general increase in business activity during a period of lighter COVID restrictions (including professional fees, travel and training) plus the impact of a stronger GBP vs. JPY and cost inflation.
- One-off restructuring charges totaling ¥ 533m (mainly relating to the retirement of 3 Executive Officers) were also incurred in Q1 2022.

Full year cost guidance

Incremental investment designed to deliver greater returns over the medium to long term



R&D expenses (IFRS basis)

¥8,000 to ¥10,000m

- Expand platform and grow discovery capacity
- Build a program-centric clinical development focus, and invest in new translational medicine capabilities
- Move priority programs into Phase 1b clinical studies to deliver greater value

G&A expenses (IFRS basis)

¥4,250 to ¥4,750m

- Invest in functional teams to support great science
- Continue to enhance corporate governance
- Costs associated with TSE Prime listing project

2

Strategy Updates

Chris Cargill, CEO

The vision for Sosei Group

World Leading Science, Life Changing Medicines

Development, medical affairs and commercial capabilities to deliver medicines to patients

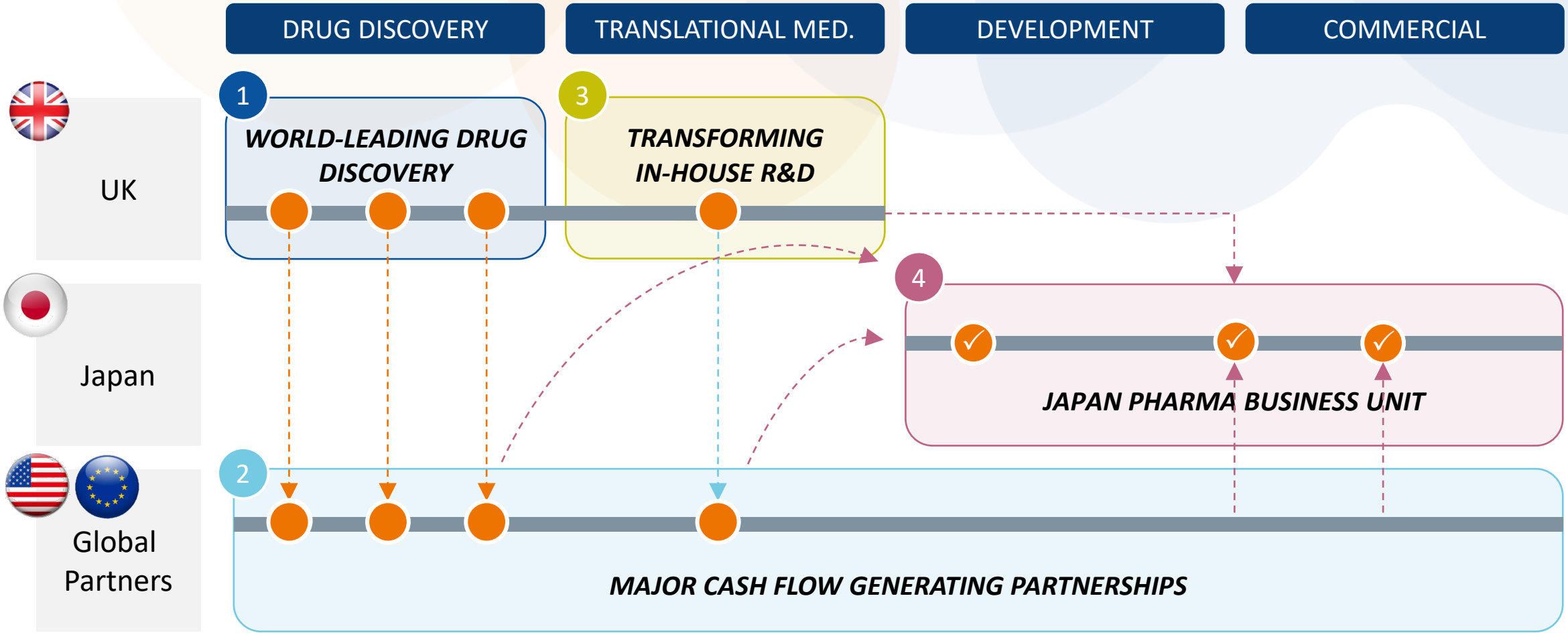
WORLD-LEADING SCIENCE

LIFE-CHANGING MEDICINES

World-class scientific platform, to discover life-changing medicines

Clear strategy to drive the business forward

Four pillars of strategic focus



World-Leading GPCR Drug Discovery

Why GPCRs? 'Second golden age' of GPCR discovery is here and we have a 15-year head start

~400
GPCR targets active in diseases[2]

~34%
of FDA approvals target GPCRs[1]

27%
of global sales are GPCR drugs[1]

- NEUROLOGICAL DISORDERS
- GASTROINTESTINAL DISEASES
- IMMUNOLOGY/ONCOLOGY
- METABOLIC DISORDERS
- CARDIOVASCULAR
- RESPIRATORY

"

Septerna emerges with $100M to spark 'second golden age' of prolific drug target GPCR with pioneer as co-founder
By Kyle LaHucik · Jan 27, 2022 07:00am

With $255M antibody biotech buy, AbbVie spies opportunity to take on tricky GPCRs
By James Waldron · Oct 20, 2022 12:40pm

Structure finalizes $111M IPO while cancer-focused Intensity reveals Nasdaq ambitions
By James Waldron · Jan 30, 2023 10:59am

"

GPCRs are active in a wide range of disease areas, and offer broad therapeutic potential

GPCR research has led to more than 700 approved drugs over previous decades and is still ripe for development[3]

Sources: [1] "Unexplored opportunities in the druggable human genome", Nature Reviews, 2016 ; [2] "Trends in GPCR in Drug Discovery – new agents, targets and indications", Nature Reviews, 2017; [3] "Septerna emerges with $100m to spark second golden age of prolific drug target GPCR with pioneer as co-founder" by Kyle LaHucik via Fierce Biotech, Jan 27 2022;

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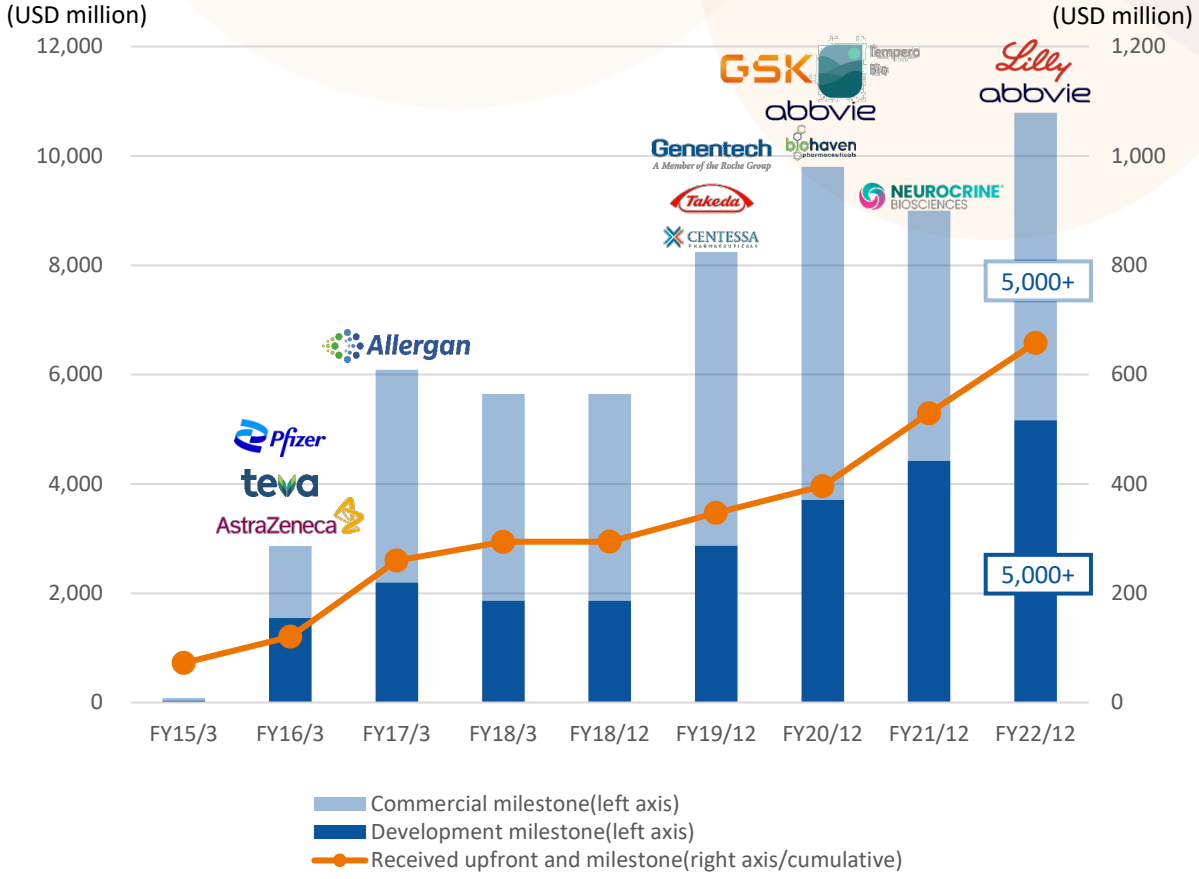
Major Cash Flow Generating Partnerships

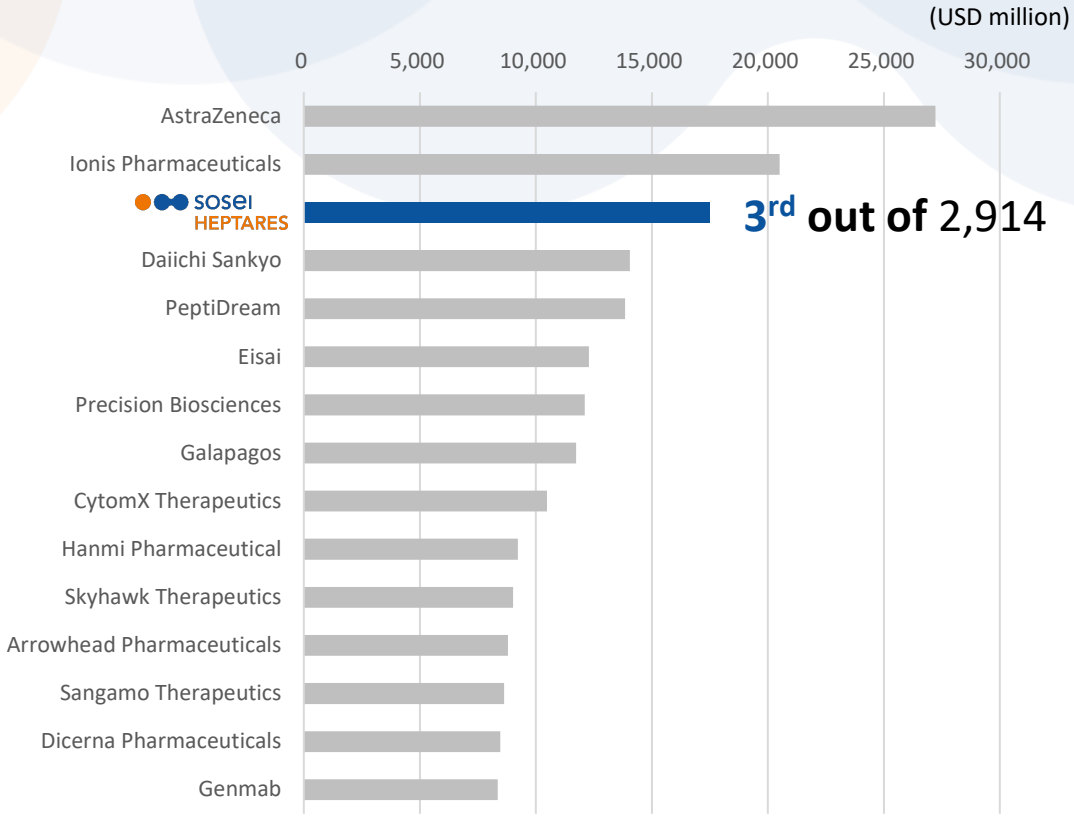
Income from strategic licensing provides non-dilutive finance to support investment and growth

Balance of potential milestone income from existing license agreements[1]



Top 15 pharmaceutical/biotech companies by license value[2]

(cumulative total since 2015)



[1] Balance as of the end of the fiscal year of only those currently under contract. TEVA and Abbvie (formerly Allergan), for which compounds were returned, are excluded from the balances from FY2018 and FY2021, respectively. [2] The figures are based on 'Licensing' category on third party's (EvaluatePharma's) proprietary database and therefore do not completely match the amounts shown in the LHS chart.
Source: Company's data (LHS) and EvaluatePharma (as of 2023/2/6) (RHS)

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Transforming In-House R&D

Enhancing efficiency and success rates to drive returns and value creation

TARGET BIOLOGY
- Entrench target biology to understand disease processes
- Define robust and testable hypothesis

PROGRAM CENTRIC
- Empowered and aligned program teams
- Accountable for planning, budget, risk
- Functions exist to support programs

TRANSLATIONAL MEDICINE
- Fully integrated preclinical and early clinical capabilities
- Lean, fit-for-purpose, and best practice

QUICK WIN / FAST FAIL
- Shift attrition to earlier, cheaper development phase
- Faster attrition enables reinvestment in R&D “sweet spot”

High quality candidates, faster, and generated cost-effectively

Larger, late-stage partnering deals in attractive areas of clear unmet need

Deeper in-house pipeline, and a pathway for Japan clinical development

Complementing our world-leading science with operational best practices to increase efficiency, PoS, & ROI

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Japan Pharma Business Unit

Huge opportunity to create a disruptive pharma business in Japan

Second largest pharma market (excl. China)

Large, ageing population

Universal health care system

FOCUS: underserved, specialty TA/DAs

ADOPT: lean, rational development and commercial model

BUILD: Japan as lynchpin market, APAC for expansion

Stable, pro-innovation market

Relatively weak incumbents

Attractive market for disruptors

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Operational Highlights

Chris Cargill, CEO

Partners and active pipeline overview

Pre-Start / Discovery	Preclinical	Phase 1	Phase 2	Phase 3	Marketed

PARTNERED

15+ PROGRAMS

Previous and ongoing discovery collabs.

- Pfizer — Multiple
- Genentech (A Member of the Roche Group) — Multiple
- Takeda — GI
- abbvie — Inflammatory, Neurology
- Lilly — Diabetes, Metabolic

Ongoing technology collabs.

- Inveni
- Pharmenable
- verily
- PeptiDream
- metrion biosciences
- Captor Therapeutics
- KALLYOPE

SELECTED ACTIVE PIPELINE PROGRAMS

Preclinical	Phase 1	Phase 2	Phase 3	Marketed
M_1M_4 ag. NBI'570 Neurology — Neurocrine Biosciences	CCR6 ant. PF'894 IBD — Pfizer	M_4 ag. NBI'568 Schizophrenia — Neurocrine Biosciences ✓		Ultibro® Breezhaler® COPD — Novartis
M_1 ag. Neurology — Neurocrine Biosciences	MC4 ant. PF'669 Anorexia — Pfizer	GLP-1 ag. PF'532 T2DM/Obesity — Pfizer ✓		Seebri® Breezhaler® COPD — Novartis
GPR35 ag. IBD — GSK	$mGlu_5$ NAM TMP-301 Substance abuse — Tempero Bio ✓			Enerzair® Breezhaler® Asthma — Novartis
CXCR4 mAb KY1051 Immuno-oncology — sanofi				Oravi® Mouth candidiasis — Hisamitsu

IN-HOUSE

10+ PROGRAMS

Preclinical
EP4 ant. HTL'732 Immuno-oncology — Cancer Research UK ✓
GPR52 ag. Neurology
EP4 ag. IBD
M_1 ag. Japan Neurology ✓

✓ Updates since the beginning of FY22

Note: Seebri®, Ultibro®, Enerzair® and Breezhaler® are registered trademarks of Novartis AG

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Major updates since the beginning of FY22

Further enhanced the platform's value, via multiple new collaborations

Pre-Start / Discovery Updates

1

WORLD-LEADING DRUG DISCOVERY

- verily — **New GPCR targets** already **identified with AI dataset**
- KALLYOPE — **New platform** to identify **novel targets**
- Genentech, A Member of the Roche Group — **5 milestones achieved** across multiple programs
- abbvie — **New US$1.2bn** multi-target **neurology collaboration**
  Received US$10m milestone from Inflammatory collaboration
- Lilly — **New US$700m** multi-target **Diabetes and Metabolic collaboration**

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Major updates since the beginning of FY22 (cont'd)

Great progress by our partners, including two new late-stage clinical trial starts

Translational Medicine / Clinical Development Updates

2 ***MAJOR CASH FLOW GENERATING PARTNERSHIPS***

- Pfizer: Strong **GLP-1** Ph. 1 data, **Ph. 2b started H2 2022,received US$10m milestone**
- NEUROCRINE BIOSCIENCES: **M4** IND accepted by FDA and **Ph. 2 started H2 2022, received US$30m milestone**
- TEMPERO BIO: $mGlu_5$ NAM received FDA clearance for Ph. 1 and **US$5.3M grant from NIDA**

3 ***TRANSFORMING IN-HOUSE R&D***

- CANCER RESEARCH UK: New **EP4** partnership to **maximize cancer trials**
- M_1 ag. Japan Neurology: **One new preclinical candidate –** compound selected
- Weatherden: Strategic collaboration **to drive R&D transformation and growth** and to **build Translational Medicine**

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4

R&D Progress

Dr. Matt Barnes, President of Heptares and Head of UK R&D

Platform evolution and new targeted collaborations

World-leaders choose our platform to prosecute complex GPCRs

Pre-Disc. / Discovery → Preclinical studies → Clinical studies → Commercialization

Target ID → Structure → Hit ID → Lead Optimization

Core Technologies	StaR® (Stabilized Receptor)	SBDD (Structure-Based Drug Design)
Latest additions to our platform	CryoEM	DEL Screening (DNA Encoded Library)
	Protein Binder Toolkit	Chemogenomic Library Screening
	"for difficult targets - faster"	*"for better compounds - faster"*

Multi-target Discovery Collaborations

	Total Potential Milestones[1]
Pfizer	$1.8bn
Genentech A Member of the Roche Group	$1.0bn
Takeda	$1.2bn
abbvie	$1.6bn
Lilly	$730m

[1]Potential option fees, development, regulatory and commercial milestone payments at time of signing. Sosei Heptares is also eligible to receive tiered royalties ranging from high single digit to mid-teen percentage on future net sales of any products developed under the partnerships

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Technology collaboration landscape

Adding complementary approaches to increase discovery opportunities

Choosing the right target

verily

KALLYOPE

InveniAI
innovate with intelligence

Our Core Technologies

- StaR®
- SBDD
- CryoEM
- DEL Screening
- Protein Binder Toolkit
- Chemogenomic Library Screening

Discovering a therapeutic agent

PHARMENABLE

metrion biosciences

Captor Therapeutics®

PeptiDream

sanofi

✓ Updates from beginning of FY22 to date

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Clinical stage partnerships (Muscarinic Programs)

Developing novel muscarinic receptor agonists for schizophrenia and other neuropsychiatric disorders

Phase II initiated '22

Neurocrine Biosciences Advancing Muscarinic Portfolio

Clinical studies, include:

- **Initiated Phase 2 placebo-controlled study** of NBI-1117568*, a selective M4 agonist, as a potential treatment for schizophrenia
  - ✓ NBI-1117568 offers the potential for an improved safety profile:
    - ❑ Without the need of combination therapy to minimize side effects
    - ❑ Avoids the need of cooperativity with acetylcholine when compared to non-selective muscarinic agonists and positive allosteric modulators in development
- **Initiating Phase 1 studies in 2023 of:**
  - ❑ NBI-1117570, a dual M1 / M4 agonist
  - ❑ A selective M1 agonist

NEUROCRINE BIOSCIENCES

*In-licensed from Sosei Heptares. NBI-1117568 is investigational and not approved in any country

Sosei Heptares received **$100m upfront, +$30m @ Ph 2**

Sosei Heptares to receive **ongoing R&D funding** and **up to $2.6bn** in potential development, regulatory and commercial milestones, plus **tiered double digit percentage royalties** on net sales

Sosei Heptares **retains rights to develop all M1 agonists in Japan in all indications**, with NBIX receiving co-development and profit share options

Source: Neurocrine Biosciences Announces Conference Call and Webcast of Fourth Quarter and Year-End 2022 Financial Results
https://www.neurocrine.com//assets/2023/02/NBIX-Q4-and-FY-2022-Earnings-Presentation_Final-1.pdf

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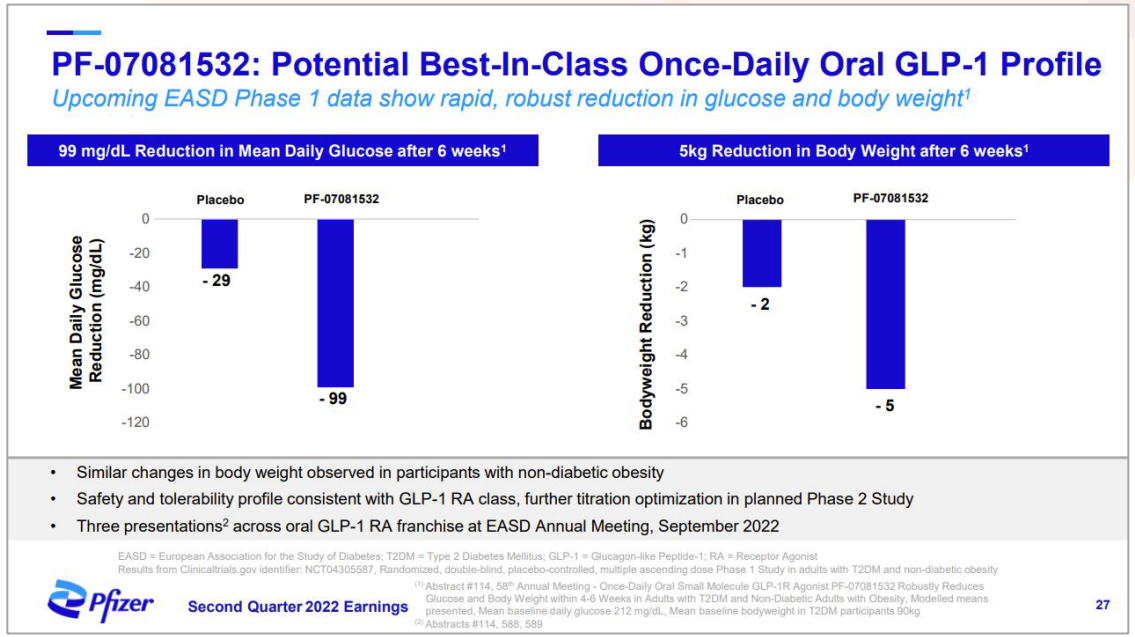
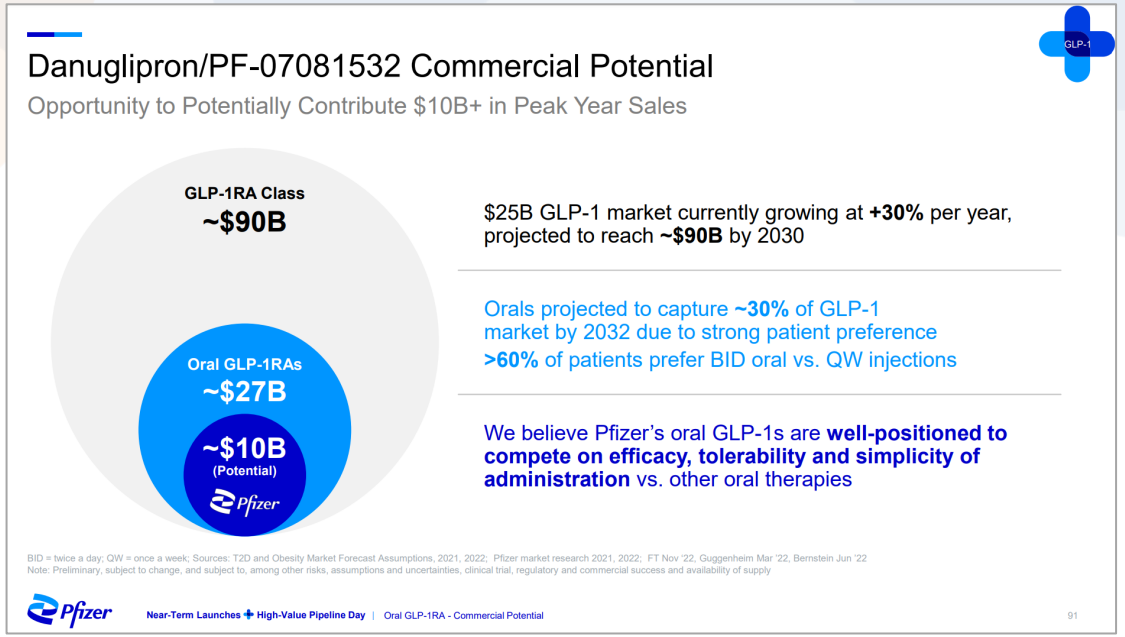
Clinical stage partnerships (Pfizer GLP-1 agonist for T2D/Obesity)

Well-positioned to compete on efficacy, tolerability and administration vs. other oral therapies

Phase IIb initiated '22





Orals projected to capture **~30%** of GLP-1 market by 2032 due to strong patient preference **>60%** of patients prefer BID oral vs. QW injections

$25B GLP-1 market currently growing at **+30%** per year, projected to reach **~$90B** by 2030

Source: Pfizer Quarterly Corporate Performance – Second Quarter 2022 presentation
https://s28.q4cdn.com/781576035/files/doc_financials/2022/q2/Q2-2022-Earnings-Charts-FINAL.pdf

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Wholly-owned programs to begin clinical studies next 12 months

Advancing priority programs into early clinical studies, including our collaboration with CRUK

	Immunosuppression in solid tumors	Schizophrenia and Psychosis	Inflammatory Bowel Disease
Indication and target	EP4 antagonist	GPR52 agonist	EP4 agonist
Target Product Profile	• Once daily oral small molecule • To be used in combo with checkpoint inhibitors • Collaboration with Cancer Research UK	• Once daily oral small molecule • 24hr target engagement	• Oral GI restricted • Good potency and selectivity • Minimal GI systemic exposure
Clinical start target	H1 2023 CANCER RESEARCH UK	H1 2023	H2 2023

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EP4 antagonist (HTL0039732)

New collaboration with CRUK to advance clinical trials for this promising cancer therapeutic

Best access - unrivalled network of world-leading scientists and clinicians

World-class infrastructure - multi-center trials delivered across 20 clinical centers in the UK

Shared costs and risks - co-development project, coordinated and managed by CRUK, with joint funding and shared risk reward

Win-win for cancer drug development - Sosei Heptares retains the license to clinical trial results and collaboration IP, CRUK receives a modest share of future revenue if the drug successfully developed

bicycle therapeutics · AstraZeneca · Hummingbird BIOSCIENCE · BioInvent · Crescendo biologics · vaccitech · immatics · MERCK · gsk GlaxoSmithKline · Lilly · LINEAGE CELL THERAPEUTICS · AMGEN

27	11 (+1)	8
PARTNERSHIPS TO DATE	PARTNERSHIPS CURRENTLY ACTIVE	ACTIVE LICENCES

CANCER RESEARCH UK

Cancer is an extremely complex area for development. We partnered with CRUK who have delivered six agents as registered medicines alongside world-leading corporate partners

Source: Cancer Research UK, Center for Drug Development

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Objectives for FY2023 and beyond

Chris Cargill, CEO

Achievements in FY2022

Organic and strategic initiatives position us well for long-term growth

		FY2022 OBJECTIVES	ACHIEVEMENT
Organic Growth	1	Execute at least one new high value collaboration and/or co-investment	✓ abbvie Lilly
	2	Generate at least one new preclinical candidate	✓ M1 ag. Japan - compound selected
	3	Further enhance R&D productivity	✓ Weatherden, CANCER RESEARCH UK
Strategic Growth	1	Continue to search for opportunities to acquire companies that will bring new sources of revenue	✓ Search ongoing. Continued premium asset values, combined with weak JPY, provide reasons to maintain discipline
	2	Collaborate/invest in new technologies with synergies	✓ verily, UNIVERSITY OF OXFORD, KALLYOPE, KU LEUVEN
	3	In-license late-stage products for clinical development and commercialization in Japan	✗ Not yet completed, actively ongoing

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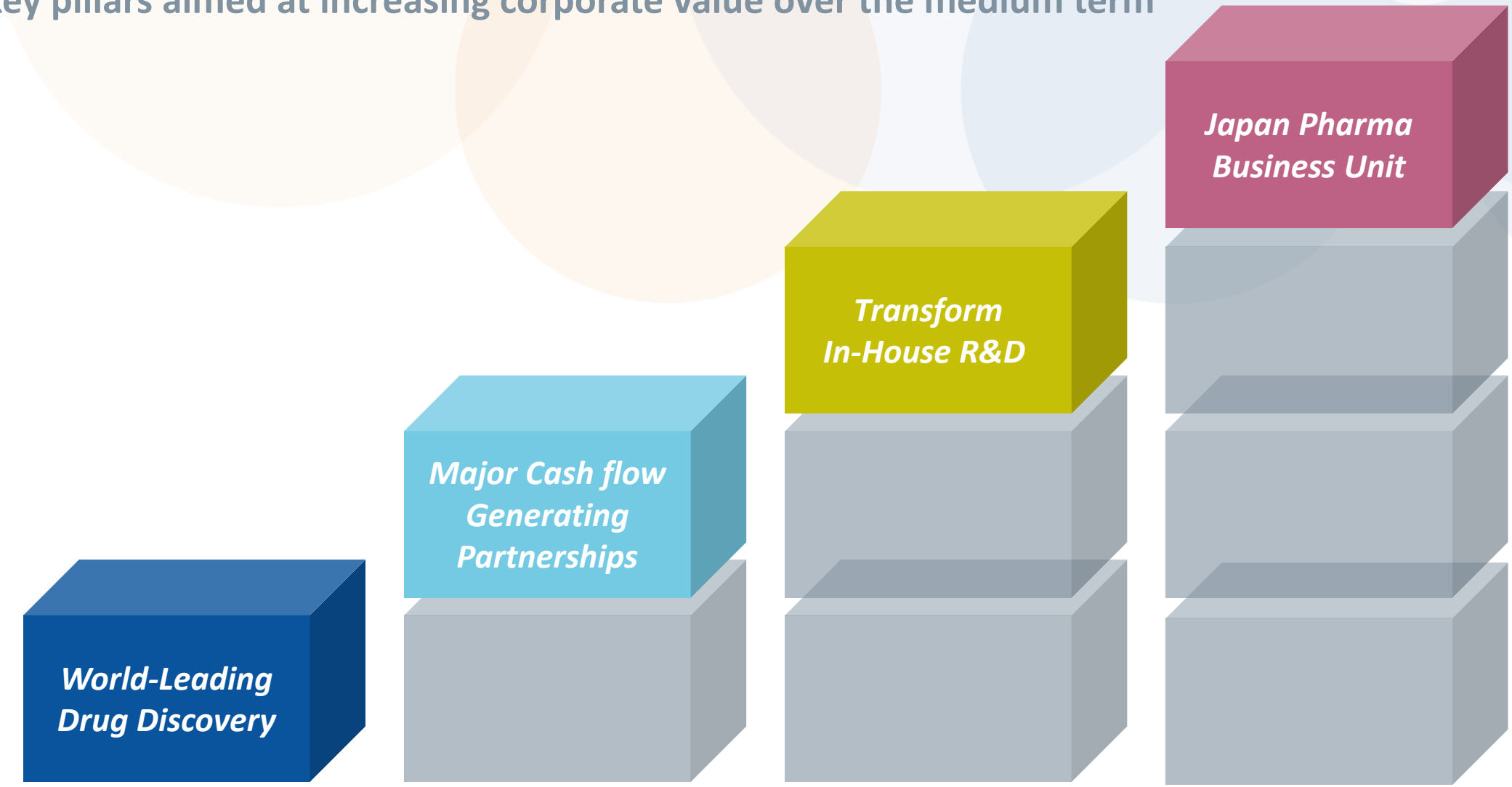
Priority objectives for FY2023

Continue to promote future growth by focusing on four strategic pillars

	FY2023 OBJECTIVES
1 WORLD-LEADING DRUG DISCOVERY	1 **Invest to enhance GPCR SBDD platform capability**
2 MAJOR CASH FLOW GENERATING PARTNERSHIPS	2 **Execute at least one new high value collaboration, and progress existing partnerships**
3 TRANSFORM IN-HOUSE R&D	3 **Advance at least two new in-house programs into first-in-human clinical trials**
4 JAPAN BUSINESS	4 **Take clear steps to build a Japan Pharma Unit (in-licensed or in-house products)**

Strategy to enhance our success

Key pillars aimed at increasing corporate value over the medium term



Our 2030 vision

Novel medicines on the market globally, through our collaborations with partners

Commercial business in Japan, based on in-licensed and in time, own products

Broad, deep and sustainable pipeline of programs with significant potential

Rapidly growing sales, cash flow and profits

Leading biotech in Japan driving innovative medicines to patients

7

Appendix

Major updates since the beginning of FY22

Selected programs re-positioned or deprioritized to optimize strategy and investment

Position Updates / Deprioritized

CGRP ant. Neurology (Pfizer)	Strategic decision of partner to revert program to its discovery portfolio
OX2 ag. Narcolepsy (Intranasal) (Centessa, Orexia)	Strategic decision of partner to prioritize and invest in oral program instead of intranasal
H4 ant. Atopic Dermatitis	Deprioritized and on hold following review. Opportunity to reposition indication being considered
A2a ant. mCRPC (AstraZeneca)	Assessing reversion opportunity. No active clinical development

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Introduction of 'Core Operating Profit'

Core Operating Profit – the financial indicator closer to the reality of our business

Operating Profit "IFRS"

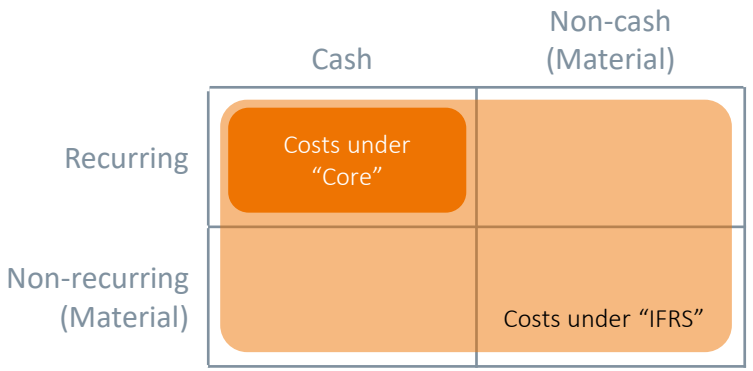
- Financial results recorded and prepared in accordance with International Financial Reporting Standards (IFRS)

+ Material Non-cash Costs

(Depreciation, Amortization, Share based payments, Impairment...etc.)

+ Material Non-recurring Costs

(Restructuring costs and Other material one-off items...etc.)



Operating Profit "Core"

- Core Operating Profit is a new key financial indicator that highlights the underlying recurring cash generating capability of the business.
- Core Operating Profit is defined as IFRS Operating Profit + material Non-cash costs + material non-recurring costs
- Material Non-cash Costs include depreciation, amortization, share based payments and impairment.
- Material Non-recurring Costs include restructuring costs and other material one-off items.
- Core Operating Profit = Cash Earnings + material Non-recurring Costs

Estimation of potential market size

Multi-billion USD annual peak sales potential for our post-pre-clinical pipeline

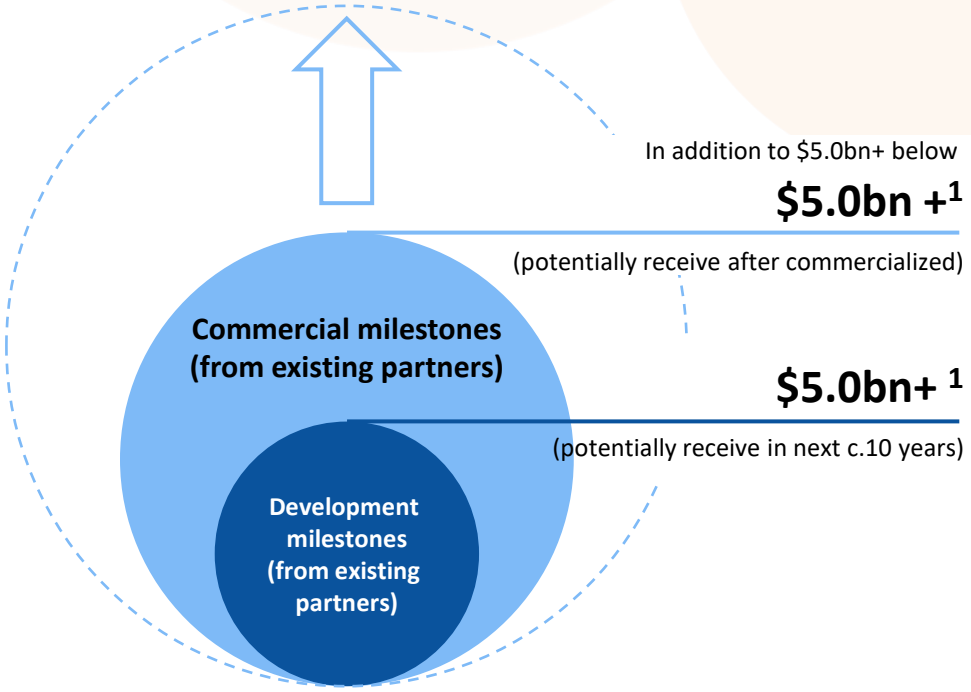
Category	Indication[2]	Number of Patients	Peak Sales(USD million)		Our Candidates
			Market Size	Individual Products	
Neurological disorders	Dementia	~55 million	$7.3 billion (2010)	$3.9 billion (2009/Aricept)	M1 agonist, M1/M4 agonist
	Schizophrenia	~20 million	$20.7 billion (2011)	$5.7 billion (2013/Abilify)	M4 agonist, M1/M4 agonist
	Substance use disorders	~10.4 million[1]	-	-	mGlu5 NAM
	Narcolepsy	~3 million	$2.3 billion (2022)	$1.7 billion (2020/Xyrem)	OX2 agonist
	Other	-	-	-	CGRP antagonist, GPR52 agonist
Immunological disorders	Cancer	~42 million	$178.9 billion (2022)	$21.0 billion (2022/Keytruda)	A2a antagonist, EP4 antagonist, CXCR4 mAb
	IBD	~10 million	$23.5 billion (2022)	$7.5 billion (2022/Humira)	CCR6 antagonist, GPR35 agonist, EP4 agonist
	Atopic Dermatitis	~13.3 million	$8.1 billion[3] (2022)	$7.0 billion (2022/Dupixent)	H4 antagonist, PAR2 mAb
Other	T2DM/Obesity	~420 million	$58.3 billion (2022)	$8.8 billion (2022/Ozempic)	GLP1 agonist
	Anorexia	~10 million	-	-	MC4 antagonist
Total			~$299 billion/year	~$56 billion/year	

Source (Number of patients) : World Health Organization, Evaluate Pharma, The European Federation of Crohn's & Ulcerative Colitis Associations (EFCCA), Narcolepsy Network, Inc., GBD 2015 Disease and Injury Incidence and Prevalence Collaborators (October 2016). "Global, regional, and national incidence, prevalence, and years lived with disability for 310 diseases and injuries, 1990-2015: a systematic analysis for the Global Burden of Disease Study 2015". Lancet. 388 (10053): 1545–1602 [1] The number of patients with drug addiction
Source (Peak Sales):Sales of each indications are extracted form Evaluate Pharma's data of sales by disease and sales by individual products (as of 30 June. 2022). [2] Sosei Heptares may target one segment in the market for specific diseases. [3] Since there is no applicable indication category, the market size of "Eczema" is stated. Current market size for Atopic Dermatitis may be larger than stated above.

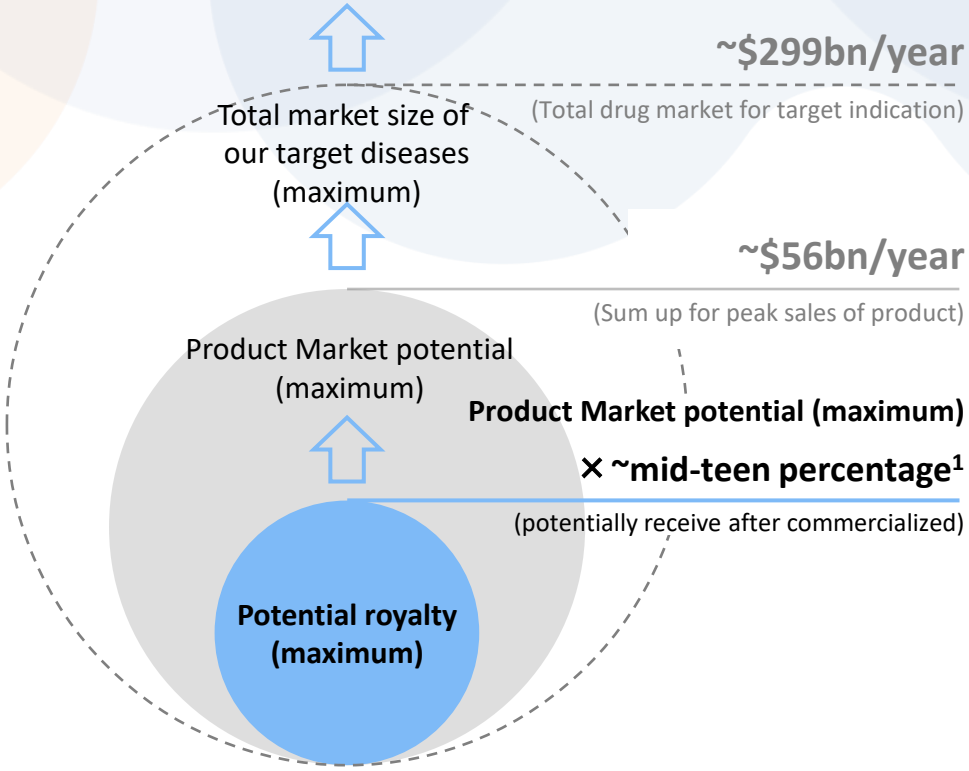
Potential revenues from existing partnerships

Securing stable revenues in the short to medium term from existing partnerships

Potential milestones from existing partners



Potential royalties from existing partners

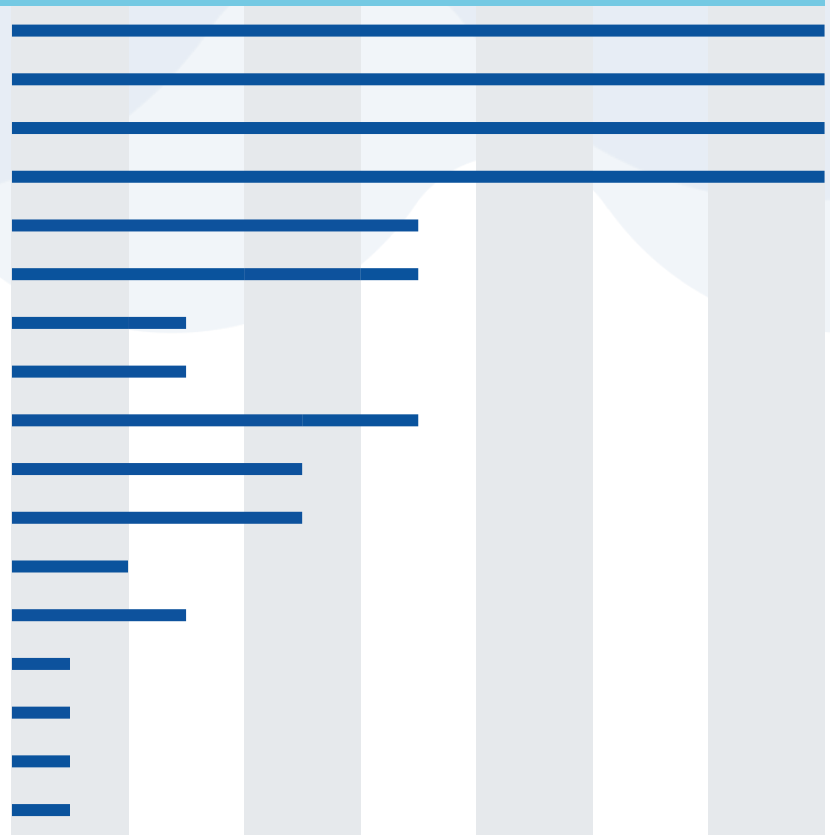


Short to medium term revenue potentially received in next 10 years	Mid to long term revenue potentially received after commercialization	Expand by executing new collaborations

[1] All of these are the maximum values if all existing programs are successful. Note that the probability of success in drug discovery is not relatively high, and realistically not all programs will be successful.
Source: Total market size of our target diseases and Product Market potential is stated in the previous page

Partnered pipeline

Compound	Target / Mechanism of Action	Modality	Indication	Partner
Partnered				
Seebri® Breezhaler®	LAMA	SME	COPD	Novartis
Ultibro® Breezhaler®	LAMA+LABA	SME	COPD	Novartis
Enerzair® Breezhaler®	LAMA+LABA+ICS	SME	Asthma	Novartis
ORAVI®	Antifungal agent miconazole	SME	Oropharyngeal candidiasis	Hisamitsu
Imaradenant[1]	Adenosine A2a ant. combo	SME	mCRPC	AstraZeneca
NBI-1117568	Muscarinic M4 agonist	SME	Schizophrenia	Neurocrine Biosciences
(Not disclosed)	Muscarinic M1 agonist	SME	Neurology diseases	Neurocrine Biosciences
NBI-1117570	Muscarinic M1/M4 agonist	SME	Neurology diseases	Neurocrine Biosciences
PF-07081532	GLP-1 agonist	SME	T2DM/Obesity	Pfizer
PF-07054894	CCR6 antagonist	SME	Inflammatory bowel disease	Pfizer
PF-07258669	MC4 antagonist	SME	Anorexia	Pfizer
(Not disclosed)	CGRP antagonist	SME	Neurology diseases	Pfizer
(Not disclosed)	GPR35 agonist	SME	Inflammatory bowel disease	GSK
(Not disclosed)	Multi target	SME/LME	Multiple indications	Genentech
(Not disclosed)	Multi target	SME/LME	Gastrointestinal and other	Takeda
(Not disclosed)	Multi target	SME	Inflammatory/Neurology	abbvie
(Not disclosed)	Multi target	SME	Diabetes/Metabolic	Lilly



Note: SME = small molecule. LME = large molecule. Seebri®, Ultibro®, Enerzair® and Breezhaler® are registered trademarks of Novartis AG. [1] AstraZenenca have removed the A2a program from their clinical pipeline as at Q3 2021

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Partnered pipeline (cont'd)

Compound	Target / Mechanism of Action	Modality	Indication	Partner	Disc.	PCC	Ph1	Ph2	Ph3	App	Mkt
Co-development											
KY1051	CXCR4 mAb	mAb	Immuno-oncology	sanofi							
(Not disclosed)	PAR-2	Peptide	Inflammatory diseases	PeptiDream							
(Not disclosed)	Targeted Protein Degradation	SME	Gastrointestinal disorders	Captor Therapeutics							
(Not disclosed)	AI-Augmented Drug Discovery	SME	Neurology diseases	PHARMENABLE							
(Not disclosed)	Ion Channel Drug Discovery	SME	Neurology diseases	metrion biosciences							
(Not disclosed)	Multi target AI-powered	SME/LME	Immune diseases	Inveni AI							
(Not disclosed)	Multi target AI-powered	SME/LME	Immune diseases	verily							
(Not disclosed)	Gut-brain axis drug discovery	SME	Gastrointestinal disorders	KALLYOPE							
Co-owned companies											
TMP301	mGlu5 NAM	SME	Substance use disorders	TEMPERO BIO							
(Not disclosed)	OX2 agonist (Oral)	SME	Narcolepsy	CENTESSA, Orexia Therapeutics							

Note: SME = small molecule. LME = large molecule

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In-house pipeline

Compound	Target / Mechanism	Modality	Indication	Originator	Disc.	PCC	Ph1	Ph2	Ph3	App	Mkt
In-house Programs											
HTL'732	EP4 antagonist	SME	Immuno-oncology	sosei HEPTARES							
(Not disclosed)	GPR52 agonist	SME	Neurology diseases	sosei HEPTARES							
(Not disclosed)	EP4 agonist	SME	Inflammatory bowel disease	sosei HEPTARES							
(Not disclosed)	Muscarinic M1 agonist (JP)	SME	Neurology diseases	sosei HEPTARES							
(Not disclosed)[1]	H4 antagonist	SME	Atopic Dermatitis	sosei HEPTARES							
(Not disclosed)	SARS CoV-2 Mpro	SME	Coronaviruses	sosei HEPTARES							
Multiple programs	Not disclosed	SME/LME	Neurology diseases	sosei HEPTARES							
Multiple programs	Not disclosed	SME/LME	GI and Inflammatory diseases	sosei HEPTARES							
Multiple programs	Not disclosed	SME/LME	Immunology diseases	sosei HEPTARES							
In-house Programs (No longer internally funded. Targeting academic / industrial partnership)											
HTL'310	SSTR5 agonist	Peptide	Hypoglycaemic disorders	sosei HEPTARES							
HTL'097	GLP-1 antagonist	Peptide	Hypoglycaemic disorders	sosei HEPTARES							
HTL'023	Dual GLP-2/GLP-1 agonist	Peptide	Intestinal failure/NASH	sosei HEPTARES							
(Not disclosed)	Apelin agonist	Peptide	Pulmonary Arterial Hypertension	sosei HEPTARES							
HTL'641	Dual orexin antagonist	SME	Insomnia and sleep disorders	sosei HEPTARES							
(Not disclosed)	PAR-2 mAb	mAb	Atopic Dermatitis/Pain	sosei HEPTARES							

Note: SME = small molecule. LME = large molecule. [1] Due to changes of strategy, we deprioritized until we will find another indication opportunity

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Glossary

Basic Terminology/Technology		
GPCR	G Protein-Coupled Receptor	There are about 800 types of GPCRs in the human body. While 400 of them are known to be potential drug targets, about 300 of them are not yet drugged
StaR	Stabilized Receptor	Sosei Heptares' proprietary technology to stabilize a GPCR by engineering a small number of single point mutations outside of the ligand-binding site. It enables to identify the structure of GPCRs to be used for SBDD drug discovery as well as antibody drug discovery as antigens
SBDD	Structure-Based Drug Design	A method to design drugs on a computer base based on the analysis of the three-dimensional structure of the drug target (e.g., protein receptor)
TPD	Targeted Protein Degradation	Drugs that promote the degradation of target proteins (e.g., receptors) in cells and aim for therapeutic effects by reducing disease-causing proteins
PAM	Positive Allosteric Modulator	A regulator that binds to unusual active sites (allosteric sites) on the receptor to increase the affinity and effect of the agonist
NAM	Negative Allosteric Modulator	A regulator that binds to an unusual active site on the receptor (allosteric site) and reduces the affinity and effectiveness of the agonist
Ag	Agonist	A therapeutic drug that binds to a receptor and activates an intracellular signaling system similar to biological substances
Ant	Antagonist	A therapeutic drug that suppresses biological reactions by binding to receptors and preventing them from binding to biological substances
PK	Pharmacokinetics	Research and testing on the relationship between drug dosage and blood concentration. Mainly describes the rate process of ADME
PD	Pharmacodynamics	Research and testing on the relationship between drug concentration and pharmacological effects
ADME	Absorption, Distribution, Metabolism and Excretion	A series of process in the absorption of drugs into the body, distribution within the body, metabolism in the liver and other organs, and excretion in the kidneys and other organs
POM	Proof of Mechanism	Proof of mechanism of action, mainly through biomarkers. It can suggest the possibility of efficacy in fewer cases than POC
POC	Proof of Concept	Proof of a therapeutic concept, primarily through clinical efficacy and safety
Ach	Acetylcholine	A neurotransmitter released from the peripheral parasympathetic and motor nerves to transmit nerve stimuli
IND	Investigational New Drug	Information packages for development candidates to be submitted to the U.S. Food and Drug Administration (FDA) at the time of initiation of clinical trials
Ph1	Phase1	A study in humans. The main purpose is to confirm the safety of the drug candidate mainly by healthy volunteers.
Ph2	Phase2	A study in humans. The main purpose is to confirm the efficacy of the drug candidates on a small scale (however, the number of patients varies greatly depending on the disease)
Ph3	Phase3	A study in humans. The main purpose is to determine the efficacy of the drug candidates on a large scale (however, the number of patients varies greatly depending on the disease)
NDA	New Drug Application	An application to the U.S. Food and Drug Administration (FDA) for approval to market a new drug
Disease/Drug		
LAMA	Long Acting Muscarinic Antagonist	An inhalant that dilates bronchial tubes and improves respiratory function by inhibiting the action of acetylcholine receptors (M3), which increase parasympathetic nerves.
LABA	Long Acting Beta2-Agonist	An inhalant that improves respiratory function by stimulating sympathetic beta2 receptors to dilate the bronchi.
ICS	Inhaled Corticosteroid	An inhalant that suppresses airway inflammation to prevent coughing attacks and other symptoms caused by asthma, also promotes the action of beta 2 stimulants and improve airway hyperresponsiveness.
mCRPC	Metastatic Castration–Resistant Prostate Cancer	Cancer that has spread (metastasized) beyond your prostate gland and for which hormone therapy is no longer effective in stopping or slowing the disease.
COPD	Chronic Obstructive Pulmonary Disease	A group of diseases that causes damage to the bronchi and lung due to smoking or inhalation of toxic substances, resulting in breathing problems.
AD	Alzheimer's Disease	Alzheimer's disease is a progressive neurologic disorder that causes the brain to shrink (atrophy) and brain cells to die, the most common cause of dementia .
DLB	Dementia with Lewy Bodies	Protein deposits, called Lewy bodies, develop in nerve cells in the brain regions involved in thinking, memory and movement (motor control), the second most common type of dementia.

Glossary (cont'd)

Drug discovery target		
M1	Muscarinic M1 Receptor	One of the five subtypes M1 to M5 of muscarinic acetylcholine receptors, known to be involved in learning and memory.
M4	Muscarinic M4 Receptor	One of the five subtypes M1 to M5 of muscarinic acetylcholine receptors, known to be involved in behavior and dopamine release.
CGRP	Calcitonin Gene-Related Peptide	CGRP is thought to be involved in vasodilation, decreased heart rate, and increased myocardial contractility via receptors.
A2A	Adenosine A2A receptor	One of the four subtypes of adenosine receptors, A1, A2A, A2B, and A3. It is expressed in many tissues and has multiple functions such as neural activity, vasodilation, and immune regulation.
GLP-1	Glucagon-like Peptide 1	GLP-1 is secreted by gastrointestinal cells when we eat, and is involved in insulin secretion from the pancreas and appetite regulation in the central nervous system.
CCR6	Chemokine Receptors 6	A type of B chemokine receptor that responds to chemokines generated during inflammation. It is believed to be involved in inflammation and immunity mainly by it's regulating the migration activity of leukocytes into inflamed tissues.
MC4	Melanocortin 4 Receptor	MC4 is expressed in the central nervous system and is the main receptor that mediates the appetite suppressing effect of alpha-melanocyte stimulating hormone.
GPR35	G Protein-Coupled Receptor 35	Orphan receptors - expressed mainly in immune and gastrointestinal tissues and is thought to be involved in areas of gastrointestinal tract, cardiovascular, inflammation, and central nervous system.
CXCR4	CXC Motif Chemokine Receptor 4	CXR4 induces migration of cancer cells and is known to be important in metastasis process.
mGlu5	Metabotropic Glutamate Receptor 5	One of the metabolic glutamate receptors expressed in the central nervous system. Glutamate is known to be the most abundant excitatory neurotransmitter in the human nervous system.
OX1、OX2	Orexin 1 Receptor、Orexin 2 Receptor	Orexins are a class of neuropeptides that are known to play a role in stabilizing wakefulness and inhibiting sleep.
GPR52	G Protein-Coupled Receptor 52	An orphan receptor that is highly expressed in the striatum- may play a role in the regulation of frontal lobe-striatal and limbic dopamine in psychiatric and neurological disorders.
H4	Histamine H4 Receptor	H4 is particularly expressed in immune system cells and is known to be involved in inflammation and allergy.
EP4	Prostaglandin EP4 Receptor	EP4 suppresses innate and acquired immunity and is known to induce tumor progression
PAR2	Protease-Activated Receptor 2	PAR2 is known to be associated with many physiological and pathophysiological processes such as inflammation, tumor metastasis, gastrointestinal motility, pain, and itching
SSTR5	Somatostatin Receptor 5	SSTR is expressed mainly on small intestinal endocrine cells and pancreatic beta cells, inhibits the secretion of gastrointestinal hormones such as GLP-1 and PYY by binding somatostatin.
GLP-2	Glucagon-like Peptide 2	Intestinal GLP-2 is secreted together with GLP-1 during nutrient intake, and repairs and protects the intestinal tract.
Mpro	SARS-CoV-2 Main Protease	An enzyme essential for the replication of Sars-CoV-2(COVID-19 cause virus). One of the target proteins for the development of antiviral drugs.
D2	Dopamine Receptor D2	Dopamine is a neurotransmitter in the brain involved in motor control, motivation, and learning - known to be associated with Parkinson's disease and schizophrenia.
5-HT	5-Hydroxytryptamine Receptor	5-hydroxytryptamine (serotonin), as a transmitter in the central nervous system, is thought to play an important role in the regulation of brain function.
Orphan receptor		A receptor whose existence is known based on genetic analysis, but for whom no ligand has been identified.
Ligand		A ligand is a molecule that binds to a specific receptor in vivo, such as hormones, neurotransmitters. For example, the ligand for muscarinic receptors is acetylcholine.

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