



Collaboration with Neurocrine Biosciences to  
Develop Novel Muscarinic Receptor Agonists

For Schizophrenia and Other Neuropsychiatric Disorders

# Disclaimer

The material that follows is a presentation of general background information about Sosei Group Corporation and its subsidiaries (collectively, the "Company") as of the date of this presentation. This material has been prepared solely for informational purposes and is not to be construed as a solicitation or an offer to buy or sell any securities and should not be treated as giving investment advice to recipients. It is not targeted to the specific investment objectives, financial situation or particular needs of any recipient. It is not intended to provide the basis for any third party evaluation of any securities or any offering of them and should not be considered as a recommendation that any recipient should subscribe for or purchase any securities.

The information contained herein is in summary form and does not purport to be complete. Certain information has been obtained from public sources. No representation or warranty, either express or implied, by the Company is made as to the accuracy, fairness, or completeness of the information presented herein and no reliance should be placed on the accuracy, fairness, or completeness of such information. The Company takes no responsibility or liability to update the contents of this presentation in the light of new information and/or future events. In addition, the Company may alter, modify or otherwise change in any manner the contents of this presentation, in its own discretion without the obligation to notify any person of such revision or changes.

This presentation contains "forward-looking statements," as that term is defined in Section 27A of the U.S. Securities Act of 1933, as amended, and Section 21E of the U.S. Securities Exchange Act of 1934, as amended. The words "believe", "expect", "anticipate", "intend", "plan", "seeks", "estimates", "will" and "may" and similar expressions identify forward looking statements. All statements other than statements of historical facts included in this presentation, including, without limitation, those regarding our financial position, business strategy, plans and objectives of management for future operations (including development plans and objectives relating to our products), are forward looking statements. Such forward looking statements involve known and unknown risks, uncertainties and other factors which may cause our actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by such forward looking statements. Such forward looking statements are based on numerous assumptions regarding our present and future business strategies and the environment in which we will operate in the future. The important factors that could cause our actual results, performance or achievements to differ materially from those in the forward looking statements include, among others, risks associated with product discovery and development, uncertainties related to the outcome of clinical trials, slower than expected rates of patient recruitment, unforeseen safety issues resulting from the administration of our products in patients, uncertainties related to product manufacturing, the lack of market acceptance of our products, our inability to manage growth, the competitive environment in relation to our business area and markets, our inability to attract and retain suitably qualified personnel, the unenforceability or lack of protection of our patents and proprietary rights, our relationships with affiliated entities, changes and developments in technology which may render our products obsolete, and other factors. These factors include, without limitation, those discussed in our public reports filed with the Tokyo Stock Exchange and the Financial Services Agency of Japan. Although the Company believes that the expectations and assumptions reflected in the forward-looking statements are reasonably based on information currently available to the Company's management, certain forward looking statements are based upon assumptions of future events which may not prove to be accurate. The forward looking statements in this document speak only as at the date of this presentation and the company does not assume any obligations to update or revise any of these forward statements, even if new information becomes available in the future.

This presentation does not constitute an offer, or invitation, or solicitation of an offer, to subscribe for or purchase any securities. Neither this presentation nor anything contained herein shall form the basis of any contract or commitment whatsoever. Recipients of this presentation are not to construe the contents of this summary as legal, tax or investment advice and recipients should consult their own advisors in this regard.

This presentation and its contents are proprietary confidential information and may not be reproduced, published or otherwise disseminated in whole or in part without the Company's prior written consent. These materials are not intended for distribution to, or use by, any person or entity in any jurisdiction or country where such distribution or use would be contrary to local law or regulation.

This presentation contains non-GAAP financial measures. The non-GAAP financial measures contained in this presentation are not measures of financial performance calculated in accordance with IFRS and should not be considered as replacements or alternatives profit, or operating profit, as an indicator of operating performance or as replacements or alternatives to cash flow provided by operating activities or as a measure of liquidity (in each case, as determined in accordance with IFRS). Non-GAAP financial measures should be viewed in addition to, and not as a substitute for, analysis of the Company's results reported in accordance with IFRS.

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.

© Sosei Group Corporation. Sosei Heptares is the corporate brand and trademark of Sosei Group Corporation. Sosei, Heptares, the logo and StaR® are trademarks of Sosei Group companies.

# Today we are joined by Dr. Eiry Roberts, CMO at Neurocrine

## DR. EIRY ROBERTS CHIEF MEDICAL OFFICER



- Appointed Chief Medical Officer in January 2018 and is responsible for all clinical development and medical affairs activities at Neurocrine.
- Over 25 years of research and development experience in the pharmaceutical industry across all phases of drug development from research through commercialization in multiple therapeutic areas, including neuroscience, inflammation, oncology and metabolic diseases.
- Joined Neurocrine from Eli Lilly and Company where she had worked since May 1991, holding various positions of increasing responsibility, including Vice President, Clinical Pharmacology/Managing Director of Chorus (October 2014 to December 2017) and Vice President of R&D, BioMedicines Business Unit.
- Trained physician in pharmacology and medicine in the UK, qualifying from the University of London in 1987. Her post-graduate clinical training was in clinical pharmacology and cardiology at St. Bartholomew's Hospital and the Royal London Hospital.
- Also serves as a director of Amicus Therapeutics, a clinical-stage biopharmaceutical company focused on rare diseases.

# Announcing our up to US\$2.7 billion collaboration with Neurocrine

Developing novel muscarinic receptor agonists for schizophrenia and other neuropsychiatric disorders

- 1 Neurocrine gains **rights to a portfolio of potential best-in-class selective muscarinic receptor agonists** in development for the treatment of major CNS disorders
- 2 Sosei Heptares receives **US\$100 million upfront** which will likely be recognized as Revenue in FY2021
- 3 Sosei Heptares to receive **ongoing R&D funding** and **up to US\$1.5 billion** in potential development and regulatory milestones, **up to US\$1.1 billion** in commercial milestones, **plus tiered up to mid-teen percentage royalties** on net sales
- 4 Sosei Heptares also **retains the rights to develop all muscarinic M1 agonists in Japan in all indications**, with Neurocrine receiving co-development and profit share options

## Licensed Portfolio

M4 agonists  
(Global)

Dual M4/M1 agonists  
(Global)

M1 agonists  
(ex-Japan)

Latest major strategic partnership executed by Sosei Heptares

# Neurocrine is a leading neuroscience-focused biopharmaceutical company...



- Incorporated in 1992, IPO in 1996 (Nasdaq:NBIX), with current market capitalization of ~US\$10bn
- First product approved in 2017 – INGREZZA® (valbenazine) indicated for Tardive Dyskinesia
- Focused on discovery and development of novel therapeutics for CNS and endocrine diseases
- Headquartered in San Diego, California with approximately 900 employees

## Global and Regional Partnerships



## Flagship Japan-based partners of Neurocrine

- Exclusive collaboration and licensing agreement to develop and commercialize valbenazine (INGREZZA®) for movement disorders in Japan and other select Asian markets
- NBIX retained full commercial rights in North America, Europe and other countries outside of Asia

**March 2015**



- Strategic collaboration to develop and commercialize compounds in Takeda's early-to-mid stage psychiatry pipeline
- NBIX received exclusive license for seven Takeda pipeline programs, including three clinical stage assets for schizophrenia, treatment-resistant depression and anhedonia

**June 2020**



Strong history of partnering with Japan's leading science-led major pharmaceutical companies



# ...well-positioned for sustained and long-term growth



**Strong Commercial Capabilities**  
**Experienced Sales Team**

**4 Approved Products\***  
**INGREZZA® Blockbuster Status**  
**ONGENTYS®<sup>†</sup> Launched Q3 2020**



**R&D Focus on Neurological,  
Endocrine, and Psychiatric Disorders**

**Robust Pipeline**  
**12 Mid-to-Late-Stage Programs**  
**Nearly 50 Clinical Development,  
Health Economic and Outcomes  
Research Studies Underway**



**Strong Financial  
Position**

**Over \$1.2B Cash and Investments**  
*(as of 30-Jun-2021)*  
**Generating Healthy Free Cash Flow**

Neurocrine's long-term growth story to be further enhanced from its collaboration with Sosei Heptares

\*AbbVie has global commercial rights to Orilissa® and Oriahnn®

<sup>†</sup> Under License from BIAL



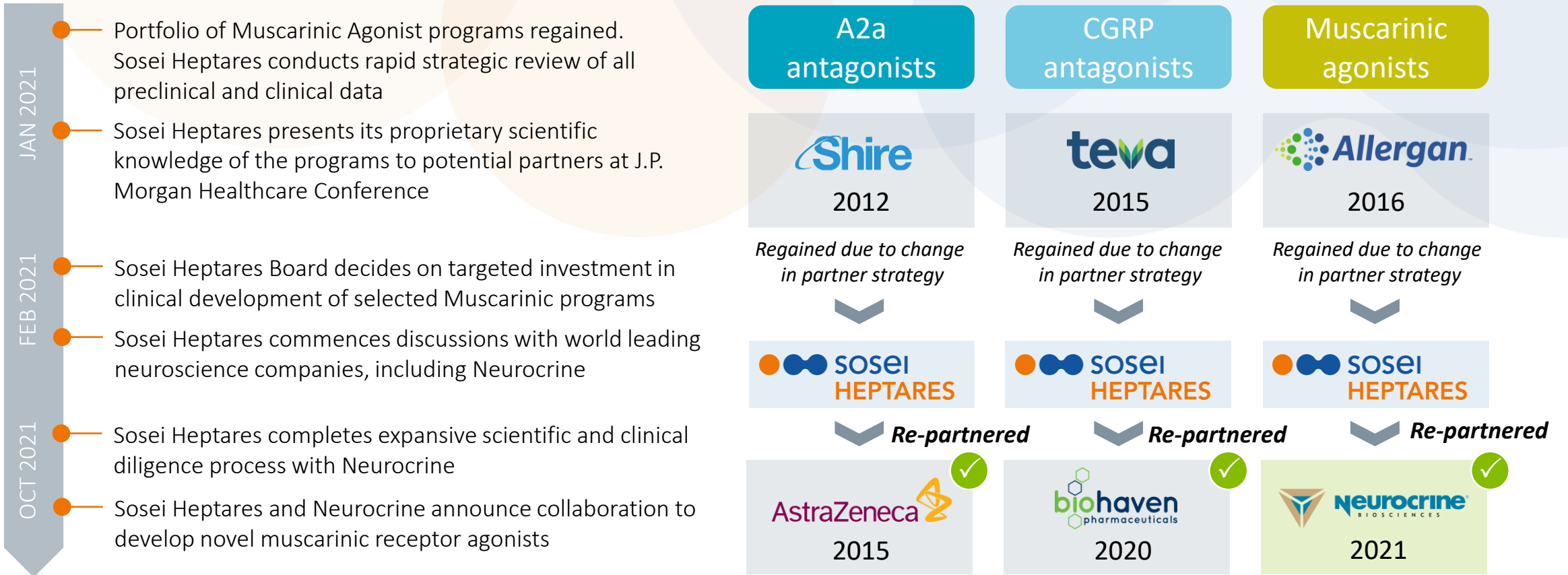
# Collaboration with Neurocrine may have a material positive financial impact on our full year FY2021 revenues

- Transaction subject to customary closing conditions, including clearance under the Hart-Scott-Rodino US Antitrust Improvements Act
- Transaction anticipated to complete by **31-Dec-2021**
  - US\$100 million upfront payment recognized as Revenue in FY2021
- Anticipated M4 Phase 2 start in 2022, plus the potential for an IND application (M1/M4 dual and/or M1 agonists) over the next 24-36 months
- Successful achievement of each development milestone event may result in the receipt of further material milestone payments

	Alliance with Neurocrine Biosciences (2021)	Former Alliance with Allergan (2016)
Upfront License Payment	US\$100m	US\$125m
Ongoing R&D Funding	Undisclosed	US\$55m
Development and Regulatory Milestones	Up to US\$1.5bn	Up to US\$665m
Commercial Milestones	Up to US\$1.1bn	Up to US\$2.5bn
Royalties	Tiered up to mid-teen % royalties	Up to double-digit tiered royalties
Japan Territory Rights	M1 agonist for all indications	M1 agonist for Dementia with Lewy Body (DLB)

Neurocrine is a well funded, highly motivated partner to develop the novel Muscarinic agonist programs

# New collaborators value our science-led focus and proprietary insights into programs created from our StaR<sup>®</sup>/SBDD approach



Our scientific leadership and proprietary insights have enabled another exciting collaboration



# Neurocrine is committed to delivering a transformative treatment for Schizophrenia with the M4 agonist HTL-0016878

Large addressable market with blockbuster sales profiles...

~20M

Schizophrenia patients worldwide

Blockbusters sales profiles despite limited efficacy and severe side effects

\$10BN+  
(2020)



\$13BN+  
(2026)



...Limited innovation in 70 years

Current treatments use the same mechanism of action from the 1950s

1<sup>st</sup> Gen

D2 modulating

Atypicals

Dual D2/5HT modulating

2<sup>nd</sup> Gen Atypicals

Dual D2/5HT modulating



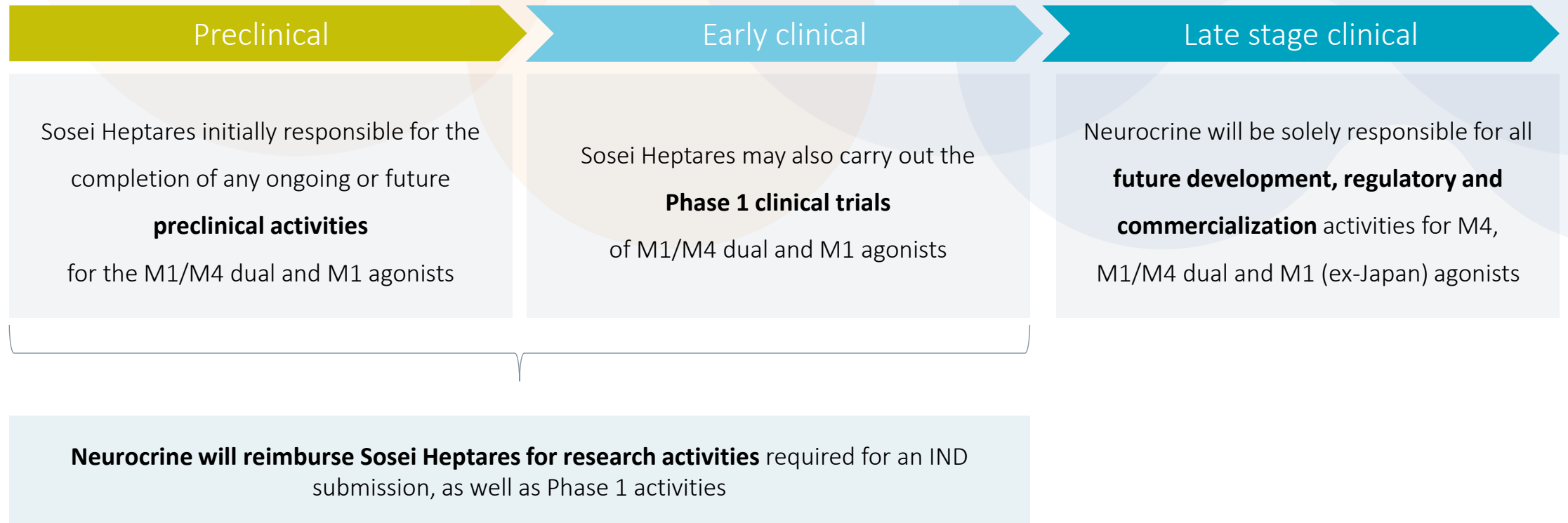
Huge opportunity for M4 agonists including HTL-0016878

- ✓ Highly selective M4 agonists
- ✓ Potential Best-in-Class therapy with a novel mechanism
- ✓ Improved tolerability
- ✓ Significant need for new treatment options

The current standard of care can be improved. Selective M4 agonism represents a unique opportunity

Source: World Health Organization; EvaluatePharma

# Similarly, we are committed to delivering high-quality, science-led programs for major CNS disorders under the collaboration



We are initially responsible for advancing multiple earlier stage preclinical programs for novel M1/M4 dual and M1 agonists under the funded research collaboration with Neurocrine

# We have retained Japan territory rights to all M1 agonists in all indications including dementia, which is a high social priority

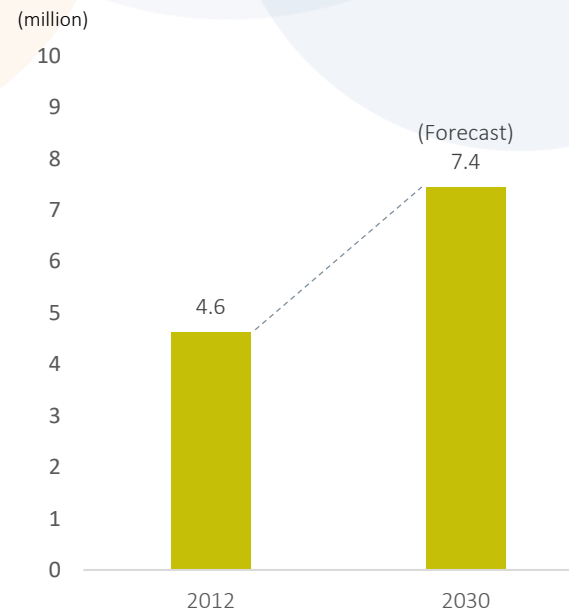
Sosei Heptares retains the **right to develop and commercialize all M1 agonists in Japan in all indications**. Sosei Co. Ltd in Japan will be responsible for any development and commercialization of the M1 agonist programs

Neurocrine and Sosei Heptares will **share access to global safety data** and certain clinical data necessary for inclusion in regulatory filings

Neurocrine has **two opt-in triggers to co-develop and co-commercialize** the M1 assets in Japan: before commencing, and after receiving topline data from the first Phase 2 POC study

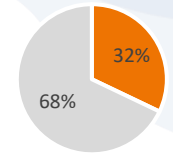
Number of dementia patients in Japan set to grow as a result of a significantly ageing population

Number of Dementia patients in Japan



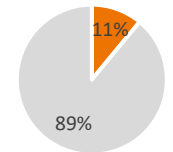
Japan Ex-Japan

Peak sales of branded donepezil (2011)<sup>1</sup>

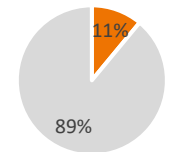


Peak sales of branded Donepezil in Japan was **US\$1.4 bn** in 2011

Sales of all drugs (2011)<sup>1</sup>



Dementia Population (2021)



Neurocrine have the right to opt-in and co-develop and/or profit share on our Japanese M1 agonist program(s)

Source: World Health Organization, Alzheimer's International, Evaluate Pharma, Transitions in Pharmaceutical Market, Production and Sales in Japan (1980–2010), MHLW

<sup>1</sup> 2011 chosen as it was a peak sales year for branded donepezil in Japan. The global patent for donepezil expired in 2011.

# Conclusion

- 1 **Collaborating with Neurocrine – a highly motivated world-leading neuroscience-focused biopharma** company and the perfect partner to advance the portfolio of potential best-in-class, selective muscarinic receptor agonists
- 2 Sosei Heptares' **latest major partnership – highly attractive financial terms – US\$100m upfront and up to US\$2.6 billion** in potential economics, **plus tiered up to mid-teen royalties**
- 3 **Neurocrine anticipate initiating a Phase 2 study in 2022** for the treatment of schizophrenia with HTL-0016878, the most advanced program. Sosei Heptares to jointly advance multiple preclinical M1/M4 and M1 agonist programs
- 4 **Retaining rights to develop all M1 agonists in Japan in all indications**, with Neurocrine receiving co-development and profit share options
- 5 Significant opportunity to address **high unmet medical need** across major neuropsychiatric disorders

The collaboration leverages the strengths of both organisations with one goal in mind – to bring important medicines to patients who need better treatment options



# Appendix

# HTL-0016878 is a 4<sup>th</sup>-generation candidate aiming to be a highly effective and safer treatment for Schizophrenia

	MoA	Typical medicine	Peak sales example	Generation	Efficacy			Safety	
					Positive symptoms	Negative symptom	Cognitive impairment	Extrapyramidal symptoms**	Weight gain
					Number of patients 20M*	Number of patients 11.5M*	Number of patients 16M*	-	-
Typical antipsychotic	D2 Ant	Haldol	(Historic data unavailable)	1 <sup>st</sup>	+++	-	-	++++	+
Atypical antipsychotics	D2 Ant + 5-HT Regulator	Zyprexa Risperdal Latuda	Zyprexa \$5,000M+ (2010)	2 <sup>nd</sup>	+++	+	+	++	++++
	D2 partial Ag + 5-HT Regulator	Abilify REXULTI Vraylar	Abilify \$6,100M+ (2013)	3 <sup>rd</sup>	+++	+	+	+	+
	M4 Agonist***	KarXT CVL-231 <b>HTL'878</b>	-	4 <sup>th</sup>	+++	++	++	-	-

After regaining the program in early 2021, HTL-0016878 has been rapidly positioned to advance with our new partner Neurocrine

\*As 1 patient can have several symptoms, number of patients in 3 symptoms is overlapping





\*\*Drug-induced movement disorders including involuntary or uncontrollable movements, tremors, muscle contractions. It is said to be related with D2 receptor occupancy balance.

\*\*\*Expected efficacy and expected safety derived from ongoing clinical trials of KarXT and CVL-231.

Source: P T. 2014 Sep; 39(9): 638–645, J Clin Psychiatry. 2010;71(3):280–286, Schizophr Bull. 2010 Jan; 36(1): 36–42 and EvaluatePharma



# Neurocrine's pipeline prior to collaboration with Sosei Heptares

	PROGRAM	INDICATION	PHASE 1	PHASE 2	PHASE 3	PARTNER	2021 UPCOMING MILESTONES
Neurology	valbenazine*	Tardive Dyskinesia (Japan)	Filed Marketing Authorization				MTPC Submitted Marketing Authorization with Ministry of Health & Welfare in Japan
	valbenazine*	Chorea in Huntington Disease	Registrational				Top-Line Data Expected by Year-End
	valbenazine*	Dyskinesia Due to Cerebral Palsy	Registrational				Initiating Registrational Study in 2H 2021
	NBI-827104	Rare Pediatric Epilepsy: CSWS					Ongoing Phase 2 Study
	NBI-827104	Essential Tremor					Ongoing Phase 2 Study
	NBI-921352	Rare Pediatric Epilepsy: SCN8A-DEE					Initiating Phase 2 Study in 2H 2021
	NBI-921352	Focal-Onset Seizures in Adults					Initiating Phase 2 Study in 2H 2021
Endocrinology	crinecerfont	Congenital Adrenal Hyperplasia (Adults)	Registrational				Ongoing Registrational Study
	crinecerfont	Congenital Adrenal Hyperplasia (Pediatric)	Registrational				Ongoing Registrational Study
Psychiatry	valbenazine*	Adjunctive Treatment of Schizophrenia	Registrational				Initiating Registrational Study in 2H 2021
	luvadaxistat (NBI-1065844)	Cognitive Impairment Associated with Schizophrenia (CIAS)					Initiating Phase 2 Study in 2H 2021
	NBI-1065845	Inadequate Response to Treatment in Major Depressive Disorder					Initiating Phase 2 Study in 2H 2021
	NBI-1065846	Anhedonia in Depression					Initiating Phase 2 Study in 2H 2021

CSWS = Epileptic Encephalopathy with Continuous Spikes and Waves During Sleep  
 Neurocrine Biosciences has global rights, unless otherwise noted.  
 \*Mitsubishi Tanabe Pharma Corporation has commercialization rights in East Asia.

 Denotes program/study to be Initiated in 2021

IR@soseiheptares.com

## SOSEI HEPTARES

PMO Hanzomon 11F  
2-1 Kojimachi, Chiyoda-ku  
Tokyo 102-0083  
Japan

Steinmetz Building  
Granta Park, Cambridge  
CB21 6DG  
United Kingdom

North West House  
119 Marylebone Road  
London NW1 5PU  
United Kingdom



[www.soseiheptares.com](http://www.soseiheptares.com)



[@soseiheptaresco](https://twitter.com/soseiheptaresco)



[@soseiheptaresco](https://www.linkedin.com/company/soseiheptaresco)



[@soseiheptaresco](https://www.youtube.com/channel/UC...)