# Maintaining profitable, sustainable growth

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# The Neuroscience market is on a growth trajectory as new areas of unmet medical need are being served

### Rapidly growing knowledge

Scientific articles for **"Neuroscience" grew 4x** from 2010-2020*

### Many exciting new advances

**Rapidly evolving science**, technologies and methodologies

### Expanded drugability

Multiple drug modalities such as **small molecules, antibodies and SMiRNAs**

### Increased regulatory approvals

FDA neuroscience approvals **grew 12% annually** from 2012-2021**

### Escalating investments

Investments in neuroscience **grew 23% annually*** from 2012-2021

### CNS is delivering in the 2020s

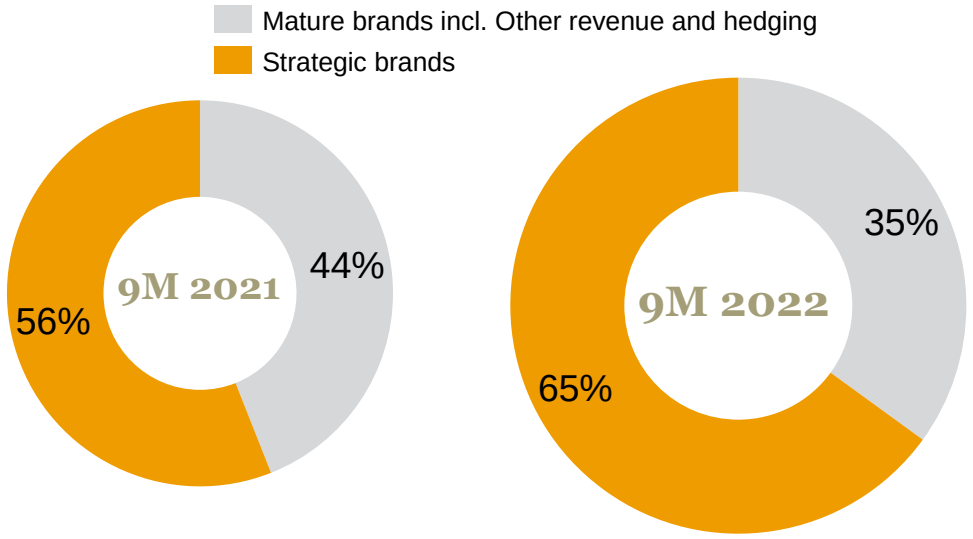
The neuroscience market is forecasted to **grow 11% annually**

**Lundbeck's neuroscience heritage and global footprint enables us to capitalize on these shifts**

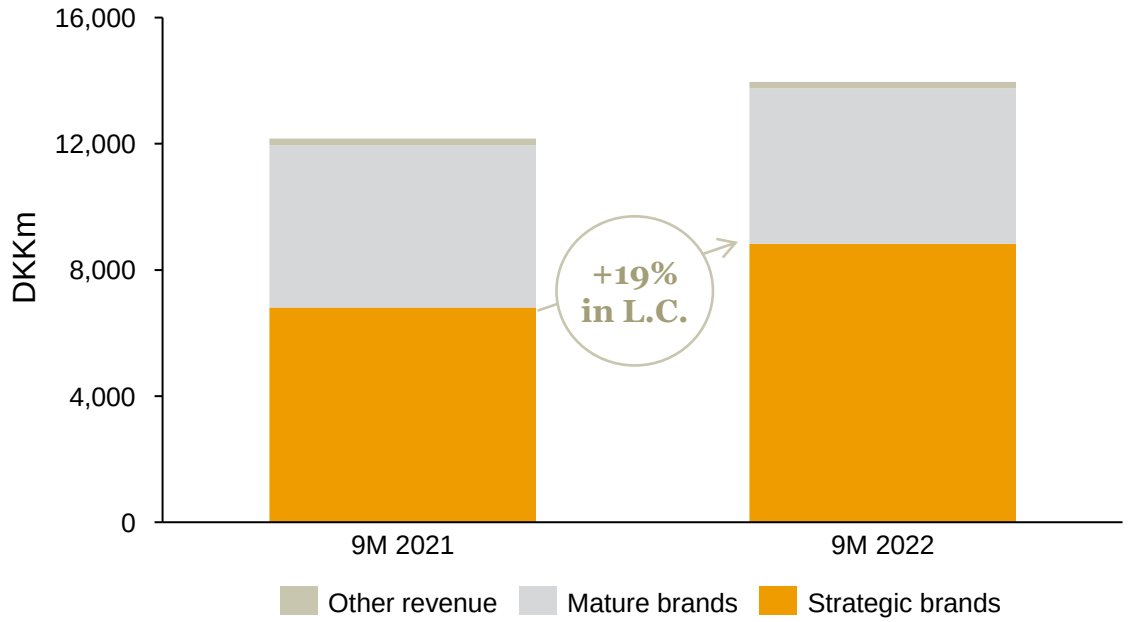
*Notes: *PubMed search query, **Compound annual growth rate in the indicated period*

# Strategic brands powering growth across the portfolio

## % Revenue contribution




## Strong growth from strategic brands




## Key drivers of revenue in period

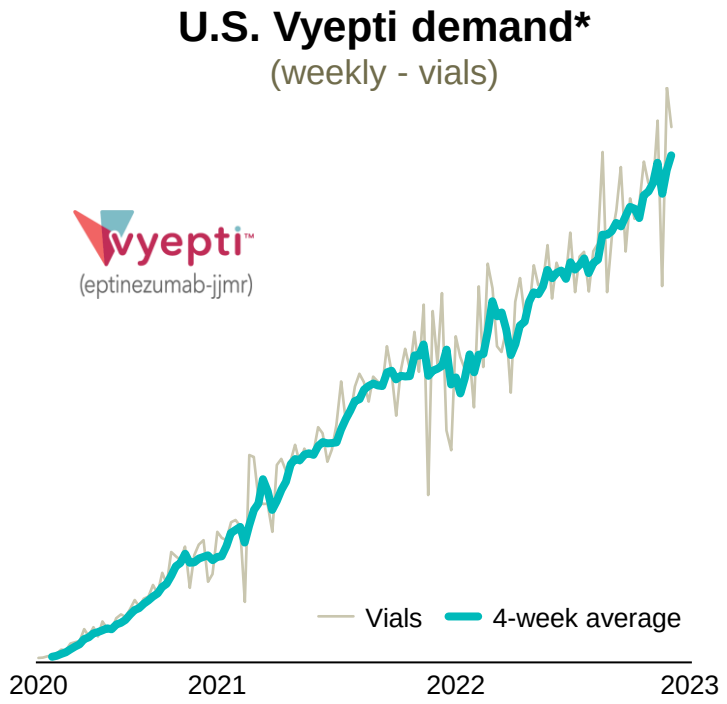
### Strategic

Continued double digit growth across all regions

### Mature

- Cipralex/Lexapro continues to be very stable

# Vyepti: Strong growth in the U.S.




*Vyepti was approved by FDA in February 2020 and by the EU Commission in January 2022. *) Weekly data view through December 9, 2022. **) Thru October 2022*

## U.S. growth advances

- Prevention market share continues to grow in the U.S.: 5.0%**
- Patient persistency on Vyepti exceeds competition

# Vyepti: Global rollout progressing as planned

## Strong adoption across new markets

- Launched in nine markets in 2022, namely Australia, Canada, Denmark, Estonia, Finland, Germany, Singapore, Sweden and Switzerland
- Volume share of prevention market:
  - 13% market share in U.A.E.
  - 4% in Switzerland (5th month)
  - 0.4% in Germany (1st month)
- Several launches planned for 2023, including launch in the UK

# Strong Brintellix/Trintellix growth underpinned by excellent efficacy profile

## Continued strong growth in Japan

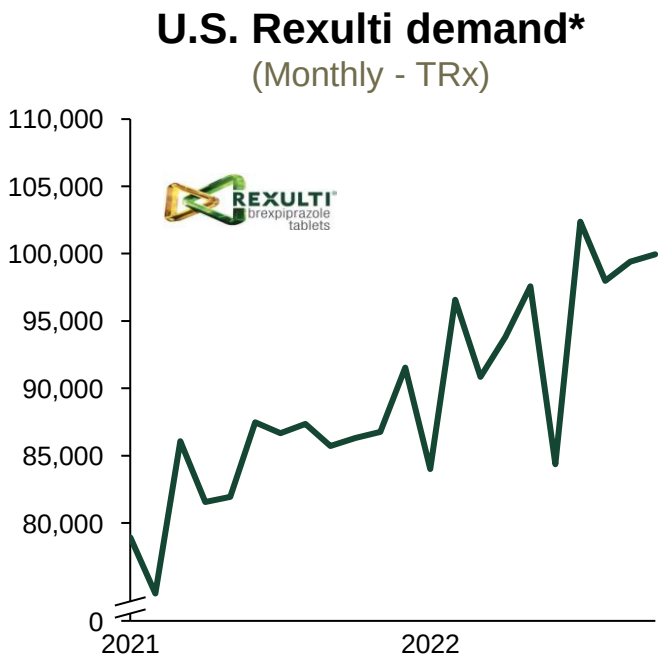
- 9.1% value market share (up 3.3ppt in 2022)
- Benefitting from stronger positioning due to increased adoption by psychiatrists as a first-line of treatment

## Strong growth continues in Europe and International Markets

- Canada, Spain, China and Italy are growth leaders
- Strong growth in prescribing GPs, e.g. in Spain
- Positive momentum across multiple other markets

*Trintellix was approved by FDA September 2013 and Brintellix by EMA December 2013*

# Rexulti continues to show strong volume growth




*Rexulti was approved by the FDA July 2015 and by the EU Commission July 2018.. *) Bloomberg, data ending November 2022.. *) AAD: Agitation in Alzheimer's Disease*

## Continued strong growth momentum in the U.S...

- Share at all time high
- Number of $R_x$ increased with strong in person promotion and DTC offering
- AAD** launch preparations underway

## ...and in countries such as Brazil and Canada

- Dynamic growth in Canada of close to 30% y/y with volume share now at ~3.2%
- Brazil more than doubled sales with volume share now at ~1.8%

# Brexpiprazole offers an exciting treatment option for patients with Agitation in Alzheimer's Dementia (AAD)

An estimated 6.5 million patients with AD in the U.S. increasing with at least 100,000 patients per year*

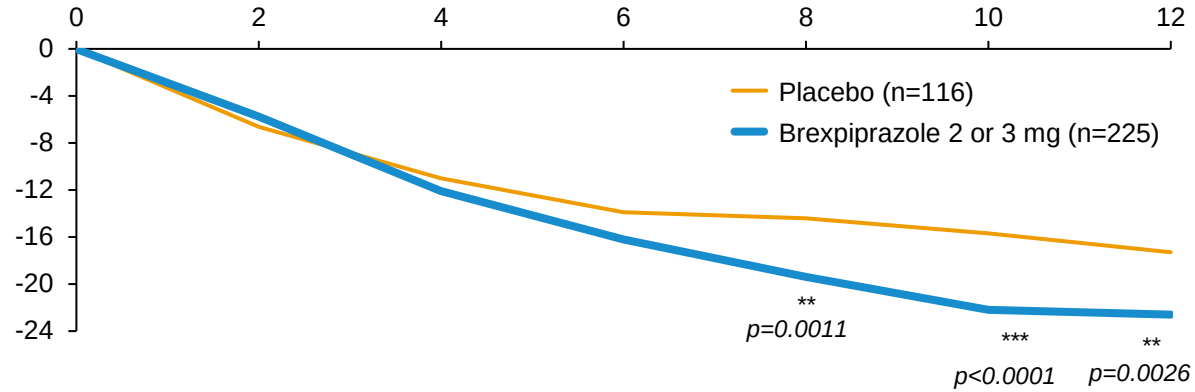
## Blockbuster potential

AAD has blockbuster potential for the Lundbeck/Otsuka alliance

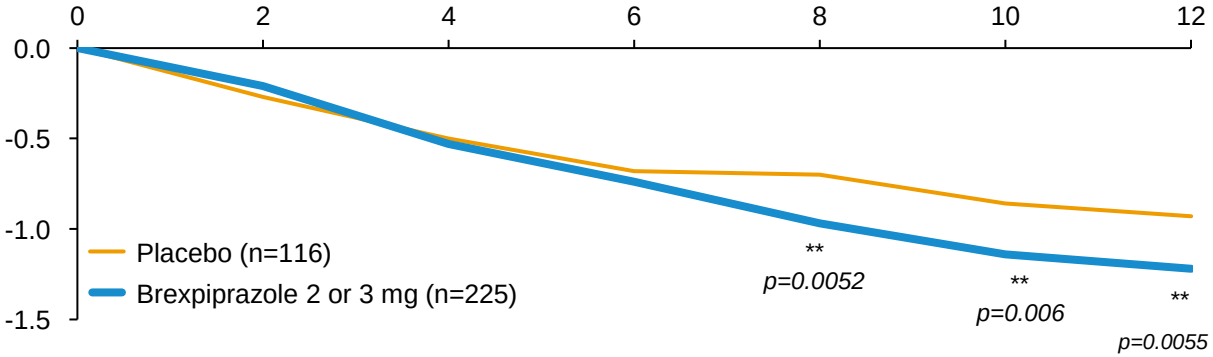
## No approved treatments for AAD

- >30% of patients with dementia are prescribed antipsychotics
- Antipsychotics prescribed for AAD patients are limited by their tolerability profile, e.g. heavily sedating and EPS***

**Primary Endpoint: Change from Baseline in CMAI Total (MMRM) (Study 213)**




**Key Secondary Endpoint: Change from Baseline in CGI-S score (MMRM) (Study 213)**




*) 2022 Alzheimer's Disease Facts and Figures, Alz & Dem., 2022, 18: 700-789. **) Halpern R. et al. Int. J. Geritr. Psychiatry 2019; 34: 420-431. ***) EPS: Extrapyramidal Symptoms. MMRM: Mixed Model Repeated Measures. CMAI: Cohen-Mansfield Agitation Inventory. CGI-S: The Clinical Global Impressions Scale

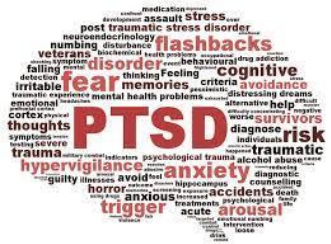
# Brexpiprazole, in combination with sertraline, is being evaluated in two phase III PTSD trials

## High unmet need in Post-traumatic Stress Disorder (PTSD)

~8.6m U.S. adults affected, but ~80% estimated to be undiagnosed[1, 2)]

Growing economic and social burden of care

Inadequate response with approved SSRIs - polypharmacy the norm




## Exploratory PoC study in PTSD[4] suggested effects of brexpiprazole in combination with sertraline

The combination of brexpiprazole and sertraline showed improvement versus placebo ($p$<0.01) on the primary endpoint (CAPS-5 total score[3)]

Brexpiprazole or sertraline alone did not demonstrate an effect

The overall safety and tolerability of brexpiprazole were good

## Phase III program

### Study #1: Flexible-dose study[5]

- 12-week treatment period
- Placebo
- Sertraline up to 150 mg/day
- Brexpiprazole up to 3mg + sertraline up to 150mg/day

**Data read-out H2 2023**

### Study #2: Fixed-dose study[6]

- 12-week treatment period
- Placebo
- Sertraline up to 150 mg/day
- Brexpiprazole 2mg + sertraline up to 150mg/day
- Brexpiprazole 3mg + sertraline up to 150mg/day

**Data read-out H2 2023**

*1. Nature Reviews Disease Primers; Vol 1, 2015. | 2. National Institute of Mental Health | | 3. Clinician-Administered PTSD Scale for DSM-5 (CAPS-5). 4) NCT03033069*

*5) Clinicaltrials.gov ID: NCT04124614. 6) NCT04174170*

# Getting ready to launch aripiprazole 2M RTU

## Abilify Maintena continues to show solid growth -13% in L.C

- Growth mainly driven by the U.S., Spain and Canada

## Strong market share gains in Europe

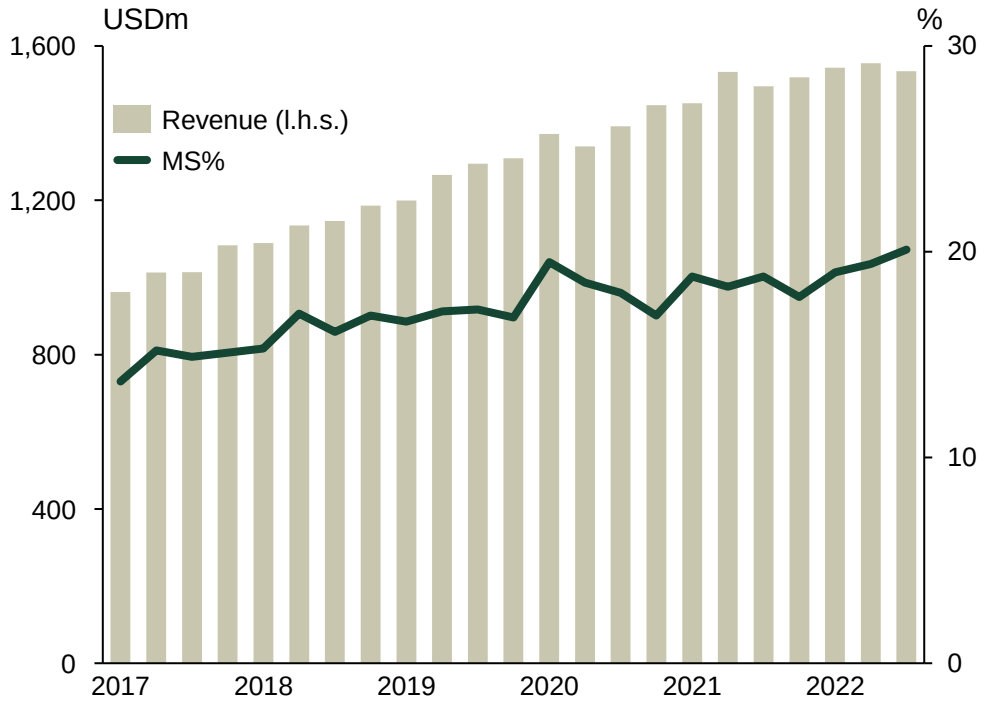
- Exceeding 30% market share in countries such as Italy, Switzerland and U.K.
- In key markets, Abilify Maintena is growing faster than the aLAI market

## Regulatory process for 2-month formulation initiated

- The FDA target date (PDUFA date) for completion of the review is April 27, 2023
- Also submitted in Canada and Europe

**Global LAI sales and Abilify Maintena MS%**

(Quarterly – USD and %)




*RTU: Ready To Use formulation. aLAI: Atypical Long-Acting Injectable Antipsychotics*

# Lundbeck's strategic journey to expand while focusing

## We stay true to our neuroscience heritage

**2021 and beyond**

- Specialist neurology (incl. pain)
- Rare disease neurology
- Specialist psychiatry

**2019**


### We are targeting specialist treated indications with impactful medicines

- Well-defined patient segments
- Severe diseases with clear unmet medical needs

### We execute in alignment with our strategy

- Work on programs with strong biological rationale
- Early de-risking through biomarker driven experimental medicine
- A well-defined and actionable path towards chosen specialist indications

# Streamlined R&D platform with strong progress in developing the product pipeline

| Biology | Project | Area | Phase I | Phase II | Phase III | Filing/launch |
|---|---|---|---|---|---|---|
| Hormonal / neuropeptide signaling | Eptinezumab (anti-CGRP mAb)[1] | Migraine prevention | | | SUN-studies | PROMISE 1 & 2 |
| | Eptinezumab (anti-CGRP mAb)[1] | Episodic cluster headache | | | ALLEVIATE | |
| | Eptinezumab (anti-CGRP mAb)[1] | Chronic cluster headache | | | CHRONICLE | |
| | Lu AG09222 (anti-PACAP mAb)[2] | Migraine prevention | | HOPE | | |
| | Lu AG13909 (anti-ACTH mAb)[3] | Neuro-hormonal dysfunctions | | | | |
| Circuitry / neuronal biology | Brexpiprazole[4] | Agitation in Alzheimer's disease | | | | |
| | Brexpiprazole[4] | PTSD | | | | |
| | Aripiprazole 2-month injectable formulation[5] | Schizophrenia & bipolar I disorder | | | | |
| | Lu AF28996 (D1/D2 agonist) | Parkinson's disease | | | | |
| | Lu AG06466 (MAGL inhibitor)[6] | MS spasticity, PTSD, ect. | | | | |
| Protein aggregation, folding and clearance | Lu AF82422 (anti alpha-synuclein mAb) | Synucleinopathies (MSA) | | AMULET | | |
| | Lu AF87908 (anti-Tau mAb) | Tauopathies | | | | |
| Neuroinflammation / neuroimmunology | Lu AG22515 (CD40L inhibitor) | Neurology | | | | |

***Streamlined R&D organization in place focused on four biological clusters for innovation***

***Biomarker driven development with active portfolio management: "Up or out "***

***Strong progress in both late-stage LCM as well as the early and mid-stage pipeline***

***Potential to improve longer-term pipeline through BD (in-licensing, M&A)***

*1) CGRP: Calcitonin gene-related peptide. 2) PACAP: Pituitary adenylate cyclase-activating polypeptide. 3) Adrenocorticotropic hormone. 4) Acts as a partial agonist at 5-$HT_{1A}$ and dopamine $D_2$ receptors at similar potency, and an antagonist at 5-$HT_{2A}$ and noradrenaline $alpha_{1B/2C}$ receptors. 5) Life cycle management in partnership with Otsuka Pharmaceuticals. 6) MAGL: Monoacylglycerol lipase*

# Strong progess in the pipeline

- Vyepti approved in EU and continued global regulatory roll-out
- Brexpiprazole **positive phase III data** in Agitation in Alzheimer's Disease
  - Submitted for regulatory approval in the U.S. and Canada
- Aripiprazole 2-month formulation (ready-to-use long-term injectable) **submitted for regulatory approval** in the U.S., EU and Canada
- Brintellix/Trintellix **LCM program concluded successfully** with strong support for its unique profile
- Two phase II/PoC programs **completed enrollment**, awaiting results in 2023/2024
- First **neuroimmunology** and **neurohormonal** programs entered into clinical development
- Rich innovative Research pipeline established, including **SMiRNA** modality class

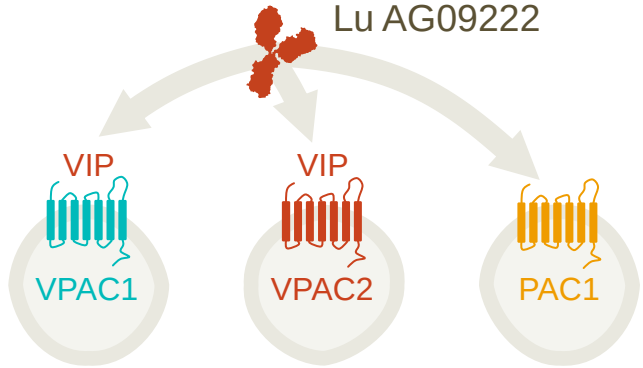
*SMiRNA: Small molecules interacting with RNA*

# Lu AG09222 holds the potential to be first-in-class with a differentiated approach to migraine prevention

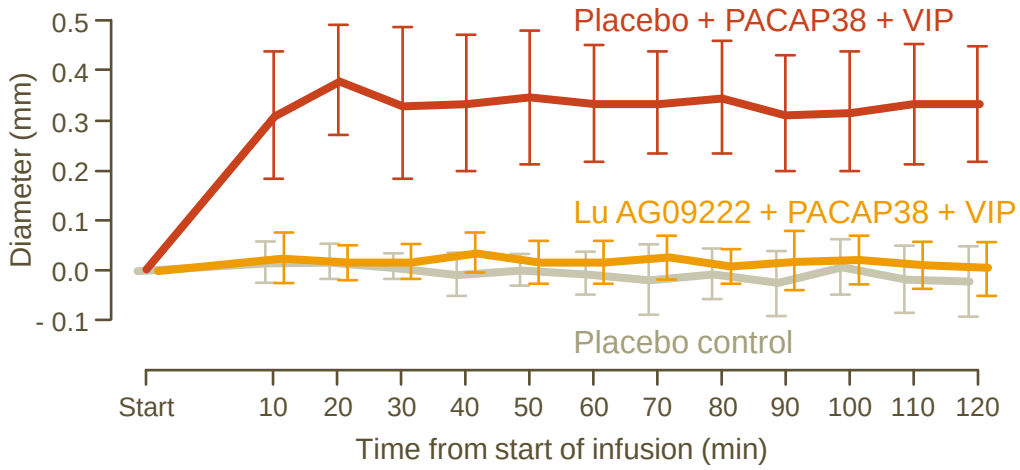
**Medical condition**
Migraine (prevention)

**Molecule**
Anti-PACAP* humanized IgG1 antibody

**Highest phase for lead asset**
Phase IIa: Prevention of migraine in adults not helped by prior treatments



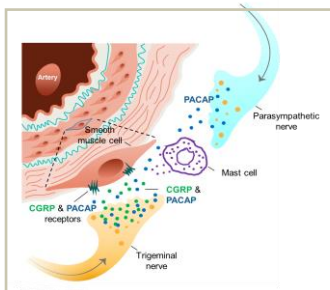

## Robust clinical data supporting MoA



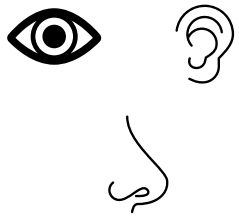

Mean±SD change in superficial artery diameter

*Notes: *PACAP: Anti-pituitary adenylate cyclase activating peptide. VIP: Vasoactive intestinal peptide*

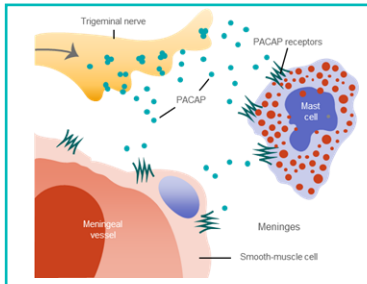
# The potential of PACAP inhibition provides opportunities beyond migraine




PACAP relaxes smooth muscle cells leading to **vasodilation**, and **activates** key components of the **trigeminovascular system**



PACAP is involved in **parasympathetic activation** and thereby the presentation of **cranial autonomic symptoms**




PACAP stimulates **mast cell degranulation** and **neurogenic inflammation**

These effects all contribute to **migraine** and in other **pain conditions** and can potentially be prevented by an **anti-PACAP treatment**

# Lu AF82422 in phase II - Potential first therapy delaying disease progression in Multiple System Atrophy

## Medical condition

Alpha-synucleinopathies: Multiple System Atrophy

*– A rare, aggressive, disease with a high unmet medical need*

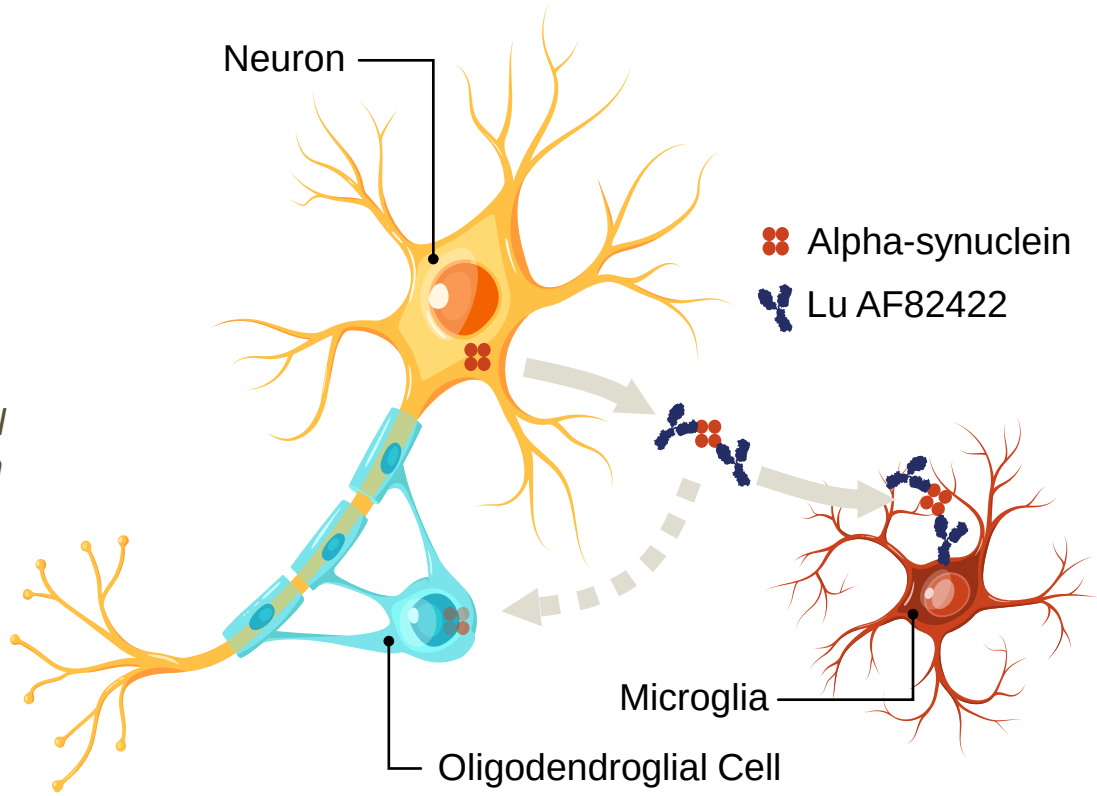
## Molecule

Anti alpha-synuclein IgG1 antibody

*– Binds to multiple species of alpha-synuclein, including C-terminal truncated forms, and shows target engagement on the monomer in CSF*

## Highest phase for lead asset

Phase II: Innovative and adaptive, supported by biomarkers



# Lu AG22515 – first neuroimmunology program progressing in phase I

## Medical condition

Immune-mediated nervous system disorders

## Molecule

Differentiated anti-CD40L antibody-like drug candidate

*– Recombinant bispecific scFv-Fab fusion protein, which binds to human serum albumin*

*– Longer half-life expected due to SAFA technology and possibly better safety profile than competitors*

## Highest phase for lead asset

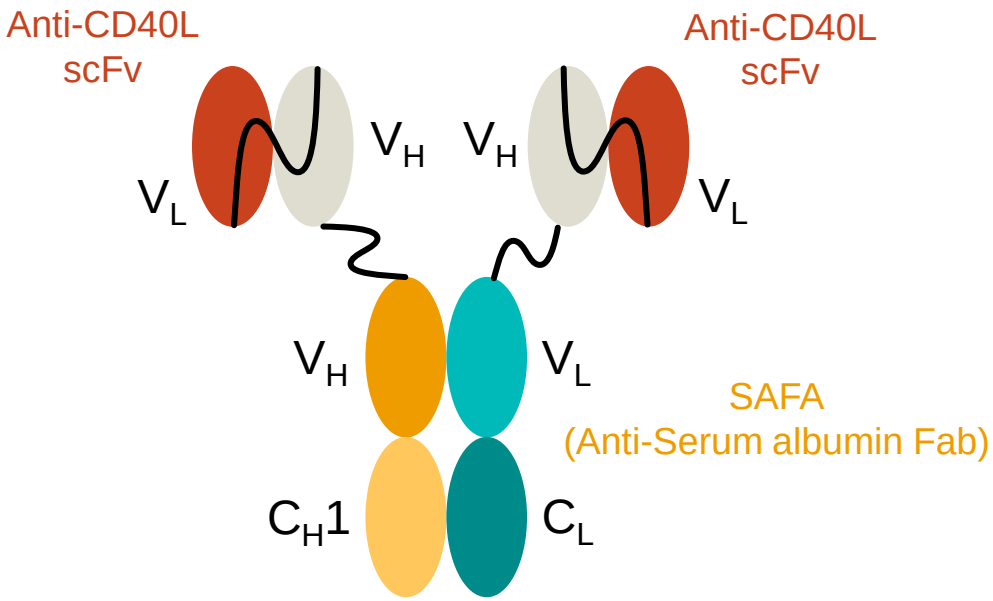
Phase I: Selecting the most promising indications

*– Clinical development program initiated March 2022*

*– Pipeline in a product – Several potential indications*

### Molecular structure of Lu AG22515

(scFv)2-Fab fusion
Molecular weight ~ 100 kDA




Notes: scFv: single-chain Variable Fragment; Fab: Fragment antigen binding region; SAFA: Anti-Serum Albumin Fab;

# Lu AG13909 – first neurohormonal program started clinical development

## Medical condition

Neurohormonal dysfunctions related to HPA axis

## Molecule

Anti-ACTH humanized IgG1 antibody

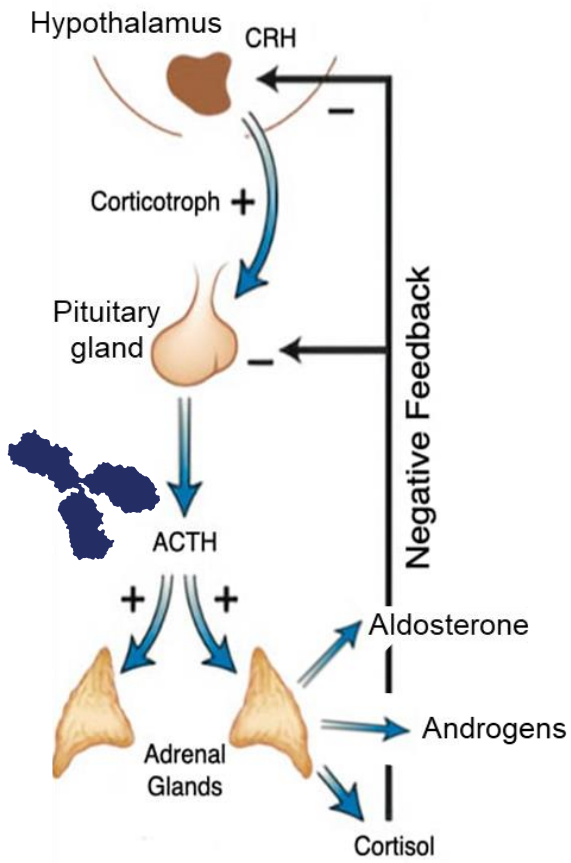
*– First in class mAb with potential to offer a safe and efficacious treatment alternative to patients suffering from conditions with increased ACTH*

## Highest phase for lead asset

Clinical development program was initiated December 2022

*ACTH: Adrenocorticotropic hormone. HPA axis: Hypothalamic-pituitary-adrenal axis*

## HPA axis



# Selected deliverables 2023

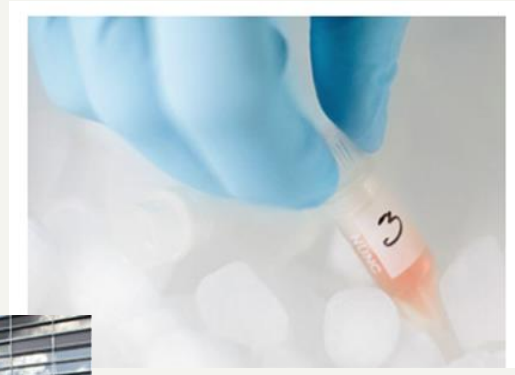
- Vyepti: Continue global roll-out through 2023
- Aripiprazole 2M RTU: FDA, Health Canada and EMA approvals

  *(Expected Q2 and Q3 2023)*
- Brexpiprazole AAD: FDA approval

  *(The FDA target date (PDUFA date) for completion of the review is May 10, 2023 following priority review)*
- Lu AG09222 (PACAP): Phase II HLR in migraine prevention

  *(Expected mid-2023)*
- Brexpiprazole PTSD: HLR from two phase III trials

  *(Expected H2 2023)*



*HLR: Headline results*

# Strong heritage in transformative medicines for brain diseases: A foundation serving enormous unmet medical needs in neuroscience

Substantial unmet and growing medical needs in CNS

Lundbeck's strategic brands provide strong, predictable growth

Major launch activity continues with continued global roll-out of Vyepti and with expected launches of brexpiprazole AAD and aripiprazole 2M RTU

Maturing pipeline with promising science for future growth – several data read-outs the next 12-15 months

Highly efficient global footprint

Solid, stable cash generative base business and strong balance sheet

**Guided by Lundbeck's Purpose:**
***"Tirelessly dedicated to restoring brain health, so every person can be their best"***

# Q&A

# Strong heritage in transformative medicines for brain diseases: A platform to serve enormous unmet medical needs in neuroscience

1. Exposure to the resilient, growing and attractive global CNS market with supportive fundamentals
2. Attractive portfolio of highly-growing strategic brands constituting majority of the business
3. Truly global and diversified sales, distribution and production footprint
4. Streamlined R&D platform with strong progress in developing the product pipeline
5. Well-defined strategy of '*expand and invest to grow*' currently being executed
6. Recognized ESG leader dedicated to restoring brain health among patients
7. Strong business momentum supporting short term financial guidance
8. Attractive mid- and long-term financial outlook

# Focus on promising biology

## Selected four biology clusters feeding into our strategy

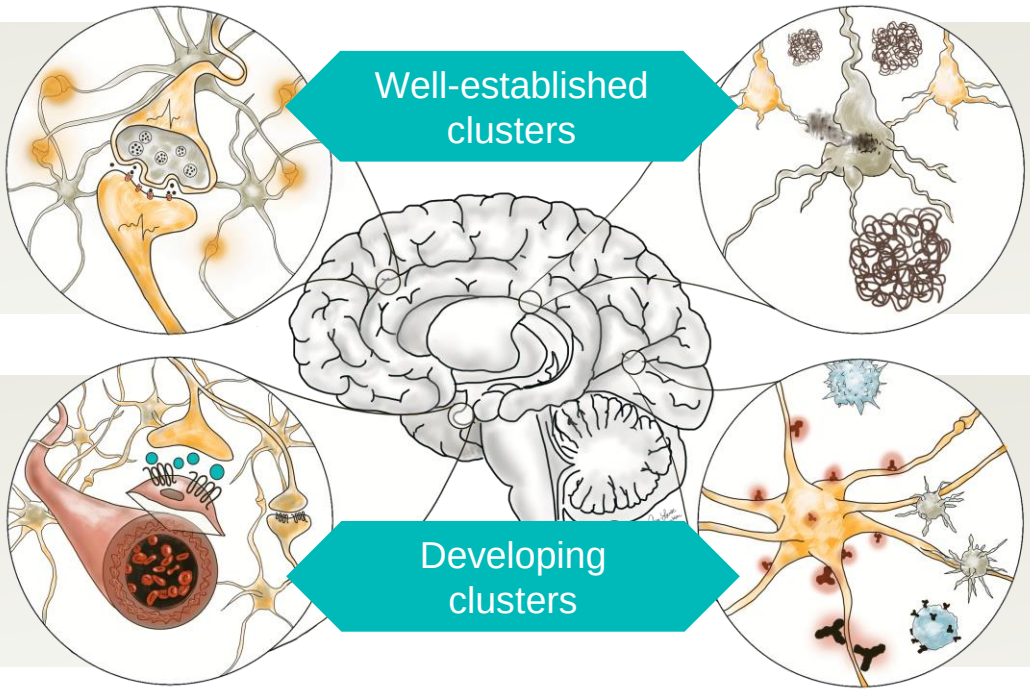
Scientifically well-described areas still rich in targets with untapped potential
High feasibility for early de-risking and maintaining a competitive edge

### Circuitry / neuronal biology

Targeting neurotransmission or synaptic dysfunction to restore brain circuits

### Hormonal / neuropeptide signaling

Targeting selected pathways of pain signals and stress response




### Protein aggregation, folding and clearance

Targeting protein-related neurodegenerative disorders

### Neuroinflammation / neuroimmunology

Targeting brain function through the immune system