

# Investor Presentation

Analyst Lunch Meeting  
Stockholm

June 19, 2023

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# Hansa Biopharma - Analyst lunch meeting

**Agenda June 19, 2023, Stockholm**

## **Introduction**

### **Business update**

*Søren Tulstrup, President & CEO*

### **Transplantation/Commercialization**

*Matthew Shaulis, CCO and US President Hansa Biopharma Inc*

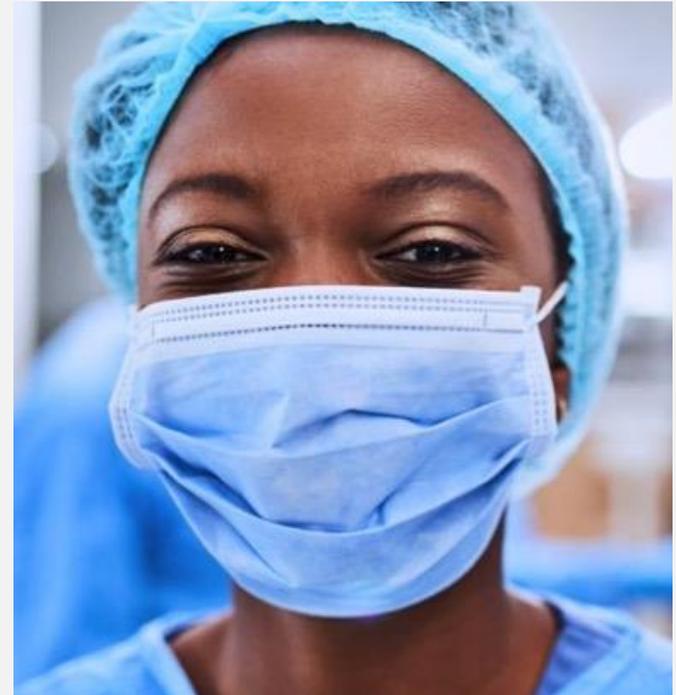
- Status of the commercial roll-out in Europe
- Eurotransplant and implementation of new imlifidase tier for HS patients
- US ConfideS and Hansa's strategy plan for building a presence in the US

### **Gene Therapy**

*Lena Winstedt, Global Franchise Lead Gene Therapy*

- Systemic gene therapy an emerging opportunity for Hansa Biopharma
- Deep dive into SRP-9001 (Sarepta in DMD) and imlifidase preclinical data in gene therapy
- Collaborations with Genethon and Askbio in Pompe disease and Crigler-Najjar

### **Concluding remarks and Q&A**



# Business Update

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**Søren Tulstrup**

President & CEO



# Solid progress on our key strategic deliverables

Our mission is to become a global leader in rare diseases

## 1 European launch of Idefirix® progressing as planned

- ✓ Market Access secured in 13 markets; More recently Spain completing access in the five of the largest European markets
- ✓ Expanded commercialization partnership with Medison Pharma in the Baltics
- ✓ US pivotal ConfldeS trial continue to enroll. New centers added

## 2 Exciting pipeline advancing; Partnerships in Gene Therapy

- ✓ Guillain-Barré Syndrome Phase 2 study enrollment completed. High-level data read-out H2 2023
- ✓ HNSA-5487: Clinical study initiated with our next generation enzyme in healthy volunteers
- ✓ Anti-GBM: First three patients enrolled in pivotal Phase 3 program
- ✓ New Partnership with Genethon in gene therapy in Crigler-Najjar

## 3 Performance continues at pace

- ✓ Total Q1 revenue - SEK 24m incl. SEK 14m in product sales; Product sales to be backend loaded in 2023
- ✓ Cash position - SEK 1.287m end of Q1'23; Hansa financed into 2025
- ✓ Matthew Shaulis - appointed new CCO and U.S. President

# Broad clinical pipeline in transplantation and auto-immune diseases including three programs in phase 3

Candidate/ Project	Indication	Research/ Preclinical	Phase 1	Phase 2	Phase 3	Marketing Authorization	Marketed	Next Anticipated Milestone
	EU: Kidney transplantation in highly sensitized patients <sup>1,2</sup>	Completed	Completed	Completed	Post approval study running in parallel with commercial launch	Completed	Ongoing	EU: Additional agreements around reimbursement / Post approval study to be completed by 2025
	US: Kidney transplantation in highly sensitized patients <sup>1,2</sup>	Completed	Completed	Completed	Ongoing			Completion of enrollment (64 patients) H1 2023
	Anti-GBM antibody disease <sup>3</sup>	Completed	Completed	Completed	Ongoing			First patient enrolled (50 patients)
	Antibody mediated kidney transplant rejection (AMR)	Completed	Completed	Ongoing				Full data read-out H2 2023
Imlifidase	Guillain-Barré syndrome (GBS)	Completed	Completed	Ongoing				Topline data H2 2023/ Comparative efficacy analysis to IGOS data in 2024
	Pre-treatment ahead of gene therapy in Duchenne (Partnered with Sarepta)	Ongoing	Planned					Initiate clinical study of imlifidase as pre-treatment in DMD 2023
	Pre-treatment ahead of gene therapy in Limb-Girdle (Partnered with Sarepta)	Ongoing						Preclinical research
	Pre-treatment ahead of gene therapy in Pompe disease (Partnered with AskBio)	Ongoing						Preclinical research
	Pre-treatment ahead of gene therapy in Crigler-Najjar disease (Partnered with Genethon)	Ongoing						Preclinical research
HNSA-5487	Lead molecule from second-generation IgG antibody cleaving enzymes (NiceR)	Completed	Ongoing					Read out from phase 1
EnzE	Cancer immunotherapy	Ongoing						Research

Completed
  Ongoing
  Planned
  Post approval study running in parallel with commercial launch

<sup>1</sup> Results from the Phase 1 study have been published, Winstedt et al. (2015) PLOS ONE 10(7)

<sup>2</sup> Lorant et al American Journal of Transplantation and O3+O4 studies (Jordan et al New England Journal of Medicine)

<sup>3</sup> Investigator-initiated study by Märten Segelmark, Professor at the universities in Linköping and Lund

# Imlifidase in kidney transplantation

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**Matthew Shaulis**

US President & CCO



# Matthew Shaulis Chief Commercial Officer and US President Hansa Biopharma Inc

## Brings more than 20 years of international experience in life sciences

- Chief Commercial Officer and US President, Hansa Biopharma Inc
- Several senior executive roles at Pfizer
  - Senior Vice President responsible for the company's global commercial and medical go-to-market model transformation
  - President, Inflammation and Immunology for International Developed Markets
  - President, North America Oncology
- Prior to Pfizer, Matt held several commercial roles across multiple disease areas
  - TEVA
  - Cephalon
  - Johnson & Johnson



Matthew Shaulis

# Our center focused and sequenced launch process designed to build the foundation for Idefirix® to become a new Standard of Care in transplantation

## European launch activities and market access efforts progressing as planned

- ✓ Market Access secured in 13 European markets; most recently Spain and Belgium
  - Including five largest markets covering 2/3 of all kidney transplantations in Europe
  - Idefirix granted AP2 Early Access by French Transparency Commission and added benefit ASMR 3 rating
  - EuroTransplant initiating a new Desensitization program for imlifidase-eligible patients this summer
- ✓ New medical guidelines implemented through ESOT
  - Guidelines represent first International consensus on a management pathway for highly sensitized patients and were published in *Transplant International*
- ✓ Increasing recognition and awareness on unmet medical need
  - KOL engagement, patient organizations and medical conferences (e.g. ATC)
  - Idefirix recognition: Prix Galien Award (UK) and “List of Technologies with a high level of innovation” (Poland)
- ✓ First Idefirix patient cases published with successful outcome at select clinics
- ✓ Repeat business of Idefirix at first clinics in Q1 2023
- ✓ Expanded commercialization partnership with Medison Pharma
  - Partnership covers Israel and select Eastern European markets; most recently the Baltics
- ✓ Post Approval Study continue to enroll; will support full marketing authorization in Europe, while generating valuable patient experience and long-term outcomes



# Scaling Idefirix® globally as we transform the desensitization treatment landscape and advance a new way of transplanting patients

## 1 Build the foundation for Idefirix®

Key activity matrix

- ✓ Commercialize in early-launch countries
- ✓ Secure Market Access in key markets
- ✓ Ensure clinical readiness/KOL engagement
- ✓ Implement medical guidelines (ESOT and country specific guidelines)
- ✓ Increase awareness on unmet need
- ✓ Initiate post approval study in Europe
- ✓ Support patient and organ access

## 2 Expanding internationally

- Leverage experience to scale Idefirix in Europe
- Secure FDA approval and launch in the U.S.
- Geographical expansion beyond core markets
- Full marketing authorization in Europe

## 3 Potential label expansion

- Potentially expand into living donor transplantation
- Potentially expand into other solid organs

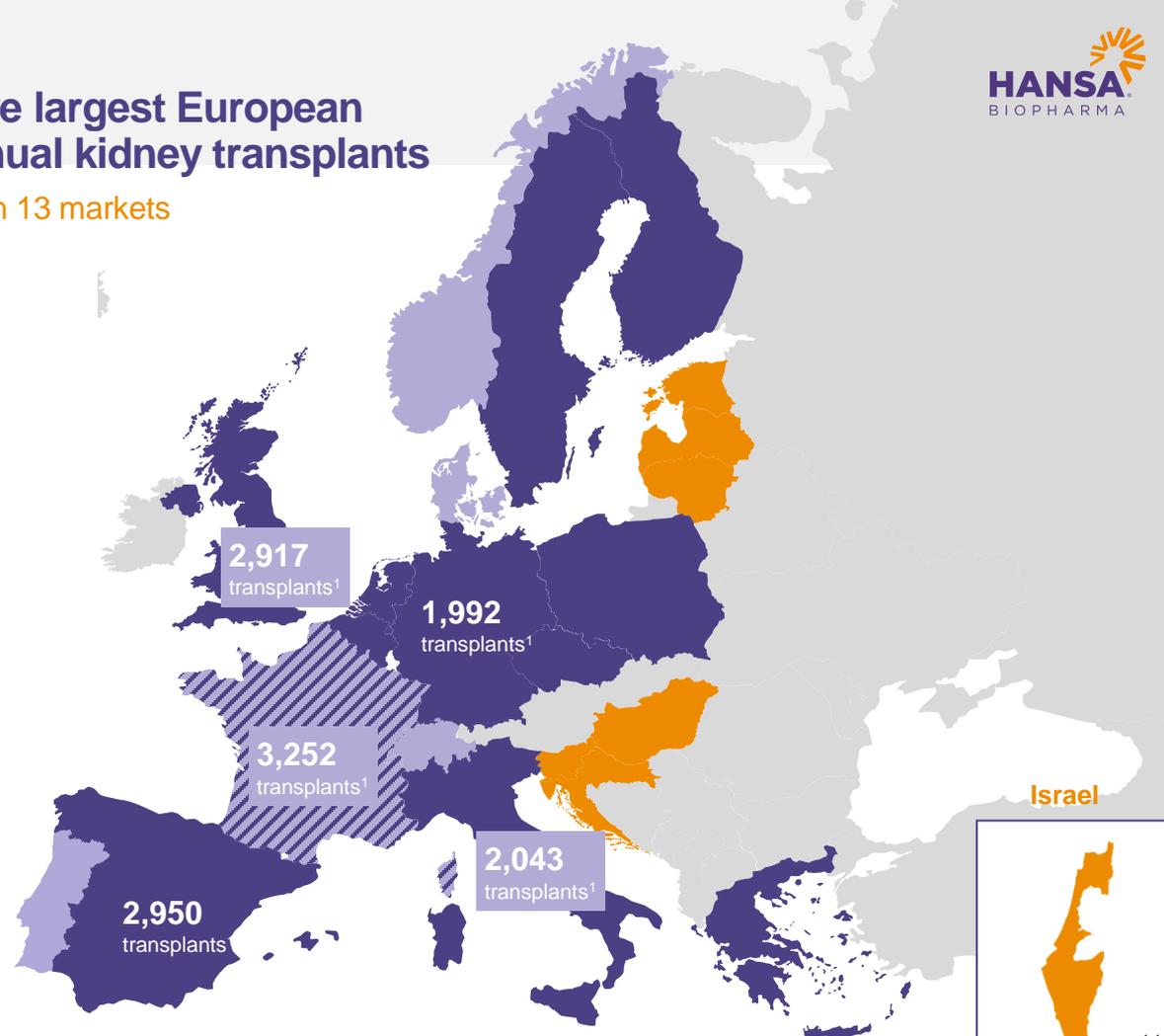
Commercial sales uptake



# Market Access secured in the five largest European markets representing 15,000 annual kidney transplants

Positive reimbursement decisions received in 13 markets

- Health Technology Assessments (HTA) dossiers submitted
- Reimbursed Early Access Program
- Pricing & reimbursement obtained (country or clinic level)
- Territories covered commercially by Medison Pharma



<sup>1</sup> Annual kidney transplantations 2019 (pre COVID-19) Transplantation data is from Global Observatory on Donation and Transplantation, 2019

<sup>2</sup> A positive recommendation for pricing and reimbursement of Idefirix® in Spain was published on February 6, 2023  
[https://www.sanidad.gob.es/profesionales/farmacacia/pdf/20230202\\_ACUERDOS\\_CIPM\\_230.pdf](https://www.sanidad.gob.es/profesionales/farmacacia/pdf/20230202_ACUERDOS_CIPM_230.pdf)

# Idefirix (imlifidase) supports the scientific community pioneering kidney transplants in highly sensitized patients



## ESOT ENGAGE I

2020/21

Stratifying the humoral risk of candidates to a solid organ transplantation: A proposal from the ENGAGE working group



## ESOT Guidelines shaping the framework

2021/22

First European Guidelines for management of highly sensitized kidney transplant patients published in *Transplant International*



## PanEU Expert Delphi Project

2021/23

Publication planned for Q4 2023

*"How to integrate Imlifidase into clinical practice"*



## Recommendations implemented in first countries

2022 -



Recommendations underway in additional eight countries including: NL, SE, GE, ES, IT, CZ, CH and AU



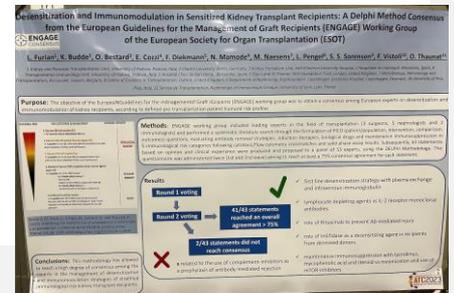
## ESOT ENGAGE II

*Desensitization immunomodulation in highly sensitized kidney transplant patient*

2022/23

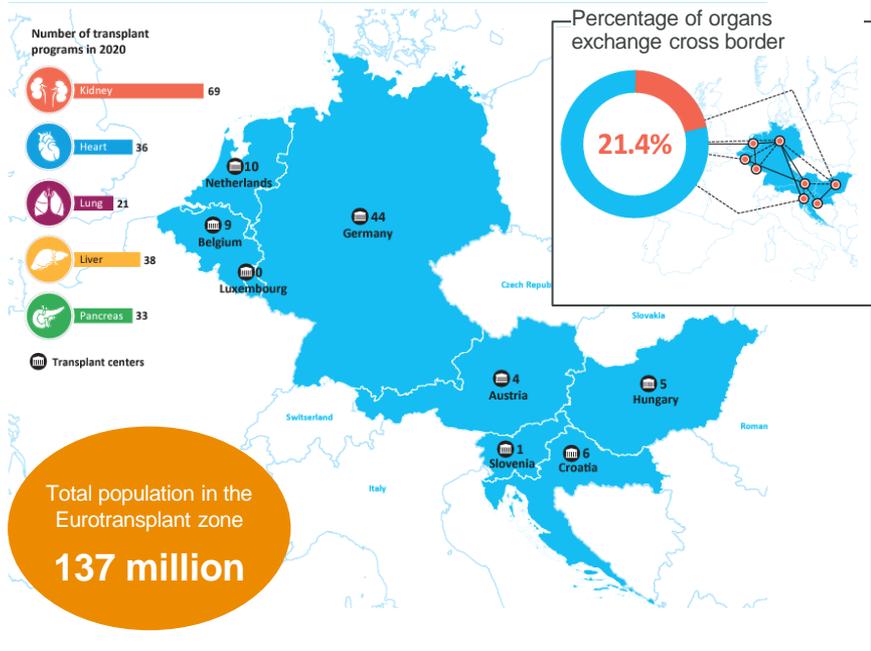
Publication in *Transplant International* planned for Q3 2023

Poster from ATC 2023 San Diego, CA



# Eurotransplant has recently initiated a new desensitization program for imlifidase-eligible patients

## The Eurotransplant zone covers eight countries



## Eurotransplant and the Eurotransplant network

- Eurotransplant is an international non-profit organization, that acts as a mediator between donor hospitals and transplant centers between its member states
- Eurotransplant is responsible for the allocation of donor organs in Austria, Belgium, Croatia, Germany, Hungary, Luxembourg, the Netherlands and Slovenia
- The Eurotransplant network has facilitated organ allocation (deceased) and cross-border exchanges for more than 50 years
- The network has one common aim: *"Ensure best possible match"*
- Today patients with a high level of donor specific antibodies are eligible for a special priority list "Acceptable Mismatch" program
- Within the Acceptable Mismatch program, a new desensitization program is established for an imlifidase-tier of patients (June'23)



# The new Eurotransplant desensitization program will be included as a pilot in the Acceptable Mismatch program

## Inclusion criteria for new Eurotransplant desensitization program

- No age limitation for patients
- Donor below 65 years
- A minimal waiting time of 3 years in the AM program (At the start of the project only patients that are waiting at least 3 years in the AM program are eligible)
- Preferable negative T-cell crossmatch towards Acceptable Antigens for the ET desensitization program (positive flow cross match on HLA DSA), final transplant center CDC crossmatch must be negative.
- Informed consent form for a follow-up data

20 patients to be included in the Pilot program

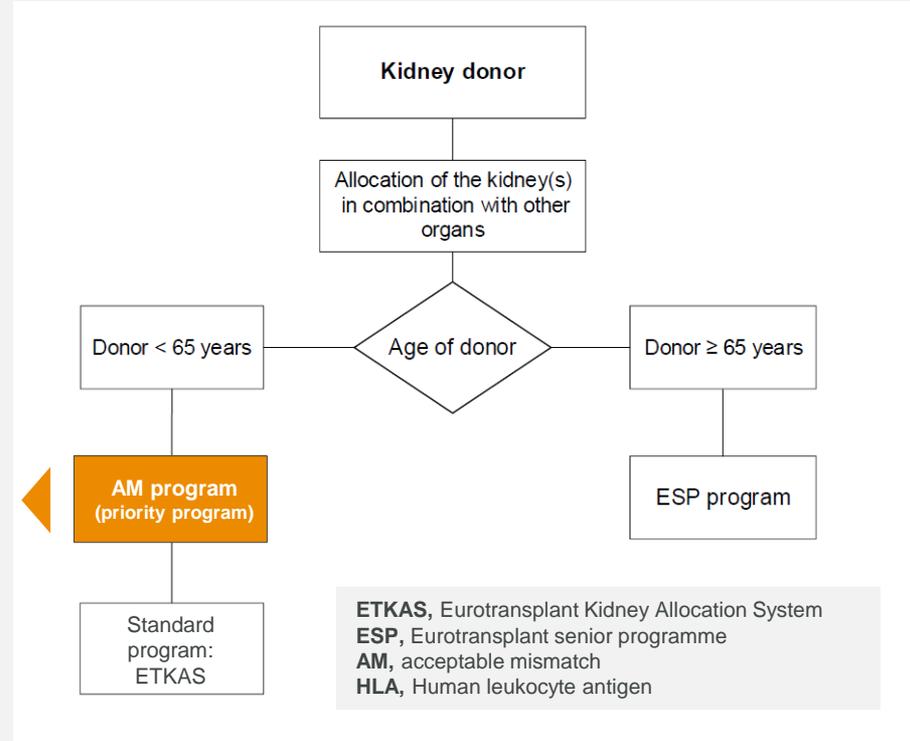
Priority Program

### Acceptable Mismatch (AM) program

- Allocate organs for patients who are immunologically compromised because of current and/or historic HLA-sensitisation
- To increase chances of an organ allocation

### New Eurotransplant desensitization program

- Imlifidase-eligible patients who are incompatible to a deceased donor



# U.S. kidney transplantation landscape

## U.S. kidney transplantation landscape

~**25,000**<sup>1</sup> annual kidney transplantations

~**71%**<sup>1</sup> deceased donor

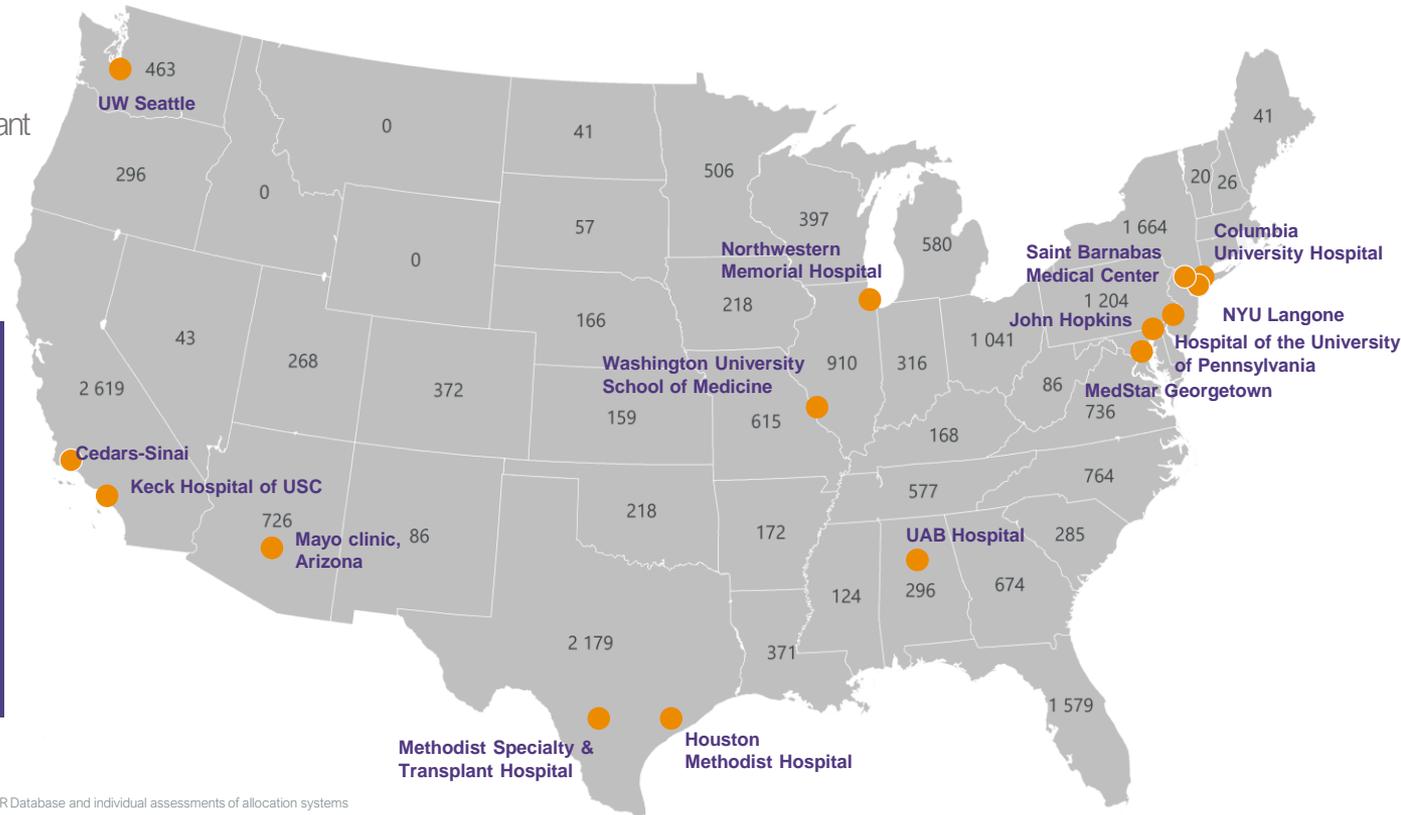
~**90,000**<sup>2</sup> waiting for a kidney transplant

**10-15%**<sup>3</sup> of waitlisted patients are highly sensitized

### Phase 3

#### U.S. ConfIdeS

- 71 patients screened and enrolled
- 14 centers open for enrollment; Hansa expects to add additional centers up to a total of 20
- Randomization expected to be completed H2 2023, as previously guided



<sup>1</sup>2019 data from Organ Procurement & Transplantation Network

<sup>2</sup>United Network for Organ Sharing

<sup>3</sup>EDQM. (2020). International figures on donation and Transplantation 2019 and SRTR Database and individual assessments of allocation systems

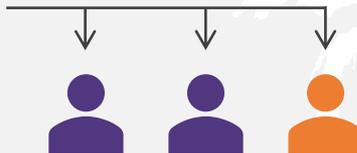
# Imlifidase may complement the US Kidney Allocation System, as thousands of patients are still unlikely to find a match

- Factors impacting the KAS score<sup>1</sup>**
- Waiting time
  - Age
  - Transplantation history
  - Sensitization (cPRA score)
  - Distance and recipient
  - Quality of donor kidney (KDPI)

KAS gives patients points with regards to levels of sensitization, increasing the likelihood of finding a match for sensitized patients

Transplantation of highly sensitized patients has increased since the introduction of KAS.

However, thousands of patients are still unlikely to find a match



KAS was revised in the U.S. in 2014 to increase equity of transplantation.

However, thousands of highly sensitized patients are still not treated

**Highly sensitized patients are less likely to find a matching organ from a deceased donor through KAS**

		cPRA%	Est. no. of organs to find match <sup>2</sup>	Estimated number of patients on waitlist (U.S) <sup>3</sup>
Degree of sensitization	Less or moderate	0-20	1-2	~66,000
		20-80	2-14	~16,000
Highly sensitized		80-98	14-300	~5,000
		98-99.9	300-3,000	~3,500
		>99.9	3,000-300,000	~2,500



If approved, Idefix<sup>®</sup> may address highly sensitized kidney transplant patients, who are incompatible to a deceased donor in the US Kidney Allocation System

<sup>1</sup> OPTN, [https://optn.transplant.hrsa.gov/media/1200/optn\\_policies.pdf](https://optn.transplant.hrsa.gov/media/1200/optn_policies.pdf)  
<sup>2</sup> p=95%, Clinical Journal of the American Society of Nephrology, 2016  
<sup>3</sup> Company estimates, OPTN and Global Observatory on Donation and Transplantation

# Strategic plan to build US presence ahead of potential regulatory approval and commercial launch of imlifidase in the US

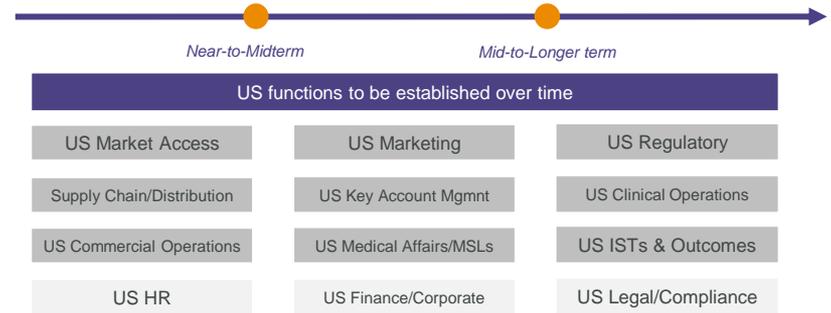
## Three shots on goal to enter important US market

- 1 US pivotal phase 3 study in kidney transplantation
- 2 Pivotal phase 3 study in anti-GBM disease
- 3 Pre-treatment to SRP-9001 in Gene Therapy (DMD)

## Critical functions to be established

- Small and agile team with deep clinical and US marketplace expertise
- Comprehensive functional coverage with dedicated US based and experienced team members
- Strength of global strategy and key global functions

Timeline



# Gene Therapy

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**Lena Winstedt**

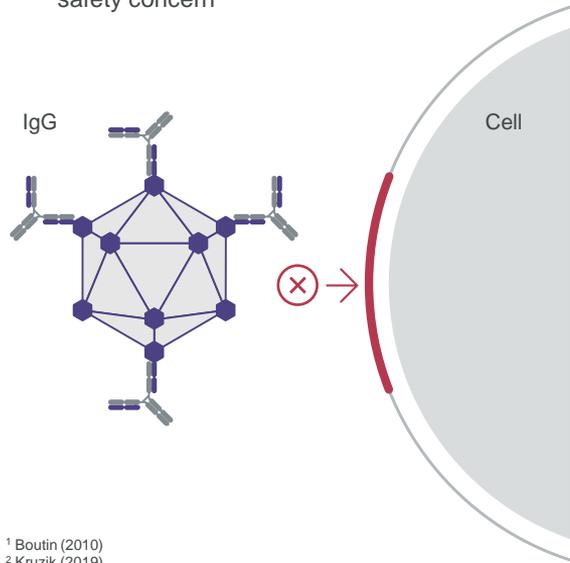
Global Franchise Lead, Gene Therapy



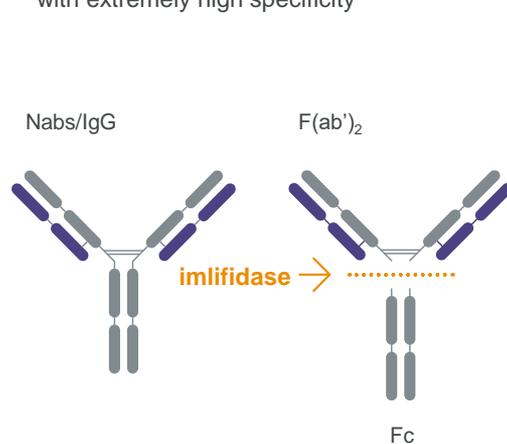
# Neutralizing antibodies (Nabs) are immunological barriers in gene therapy; imlifidase may potentially eliminate Nabs

Between approximately 5%-70%<sup>1,2</sup> of patients considered for gene therapy treatment carry neutralizing anti-AAV antibodies forming a barrier for treatment eligibility

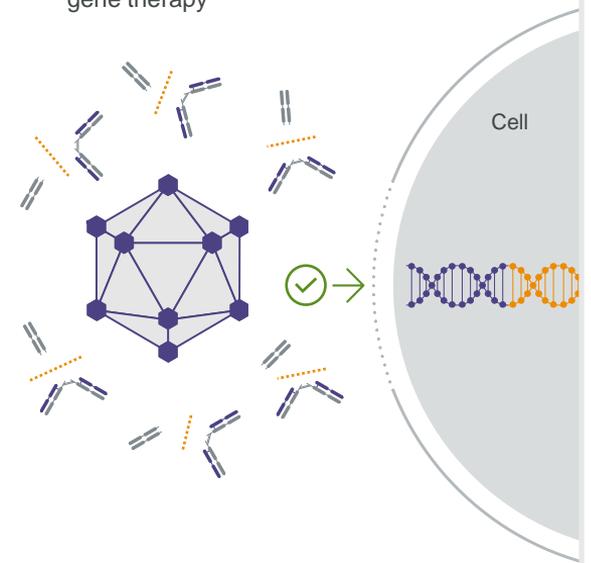
**1** Antibodies prevent effective transfer of healthy gene sequence and can be a safety concern



**2** Imlifidase is a unique IgG antibody-cleaving enzyme that cleaves IgG at the hinge region with extremely high specificity



**3** The idea is to eliminate the neutralizing antibodies as a pre-treatment to enable gene therapy



<sup>1</sup> Boutin (2010)

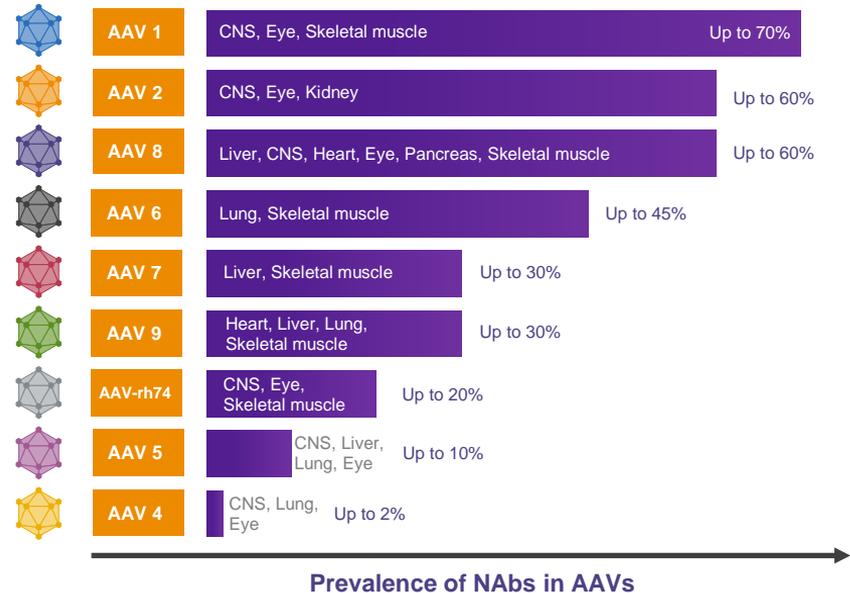
<sup>2</sup> Kruzik (2019)

# Introducing Adeno Associated Virus (AAVs)

## AAVs, the delivery system of Gene Therapy

- Wildtype Adeno Associated Viruses (AAV) belong to the family of parvoviruses
- AAVs come in many serotypes with different tissue distribution
- They carry their genetic information as DNA and normally do not integrate into the host genome but remains in the cells as episomes
- Recombinant AAV is commonly used for gene delivery, resulting in safe and long-term expression of the transgene

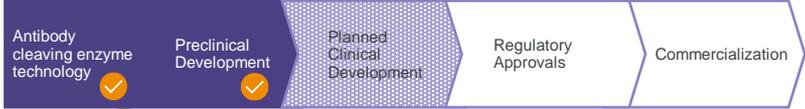
## Pre-existing antibodies towards AAVs are a limiting factor in Gene Therapy and excludes patients from clinical trials.



Source: Boutin et al. (2010), Griffin et al. (2019), Wang et al. (2018), Calcedo & Wilson (2013), Falese et al. (2017), Haiyan et al. (2017), Ellsworth et al. (2018), Greig et al. (2017)

# Global exclusive agreements with three partners in gene therapy

To develop and promote imlifidase as pre-treatment ahead of gene therapy in select indications

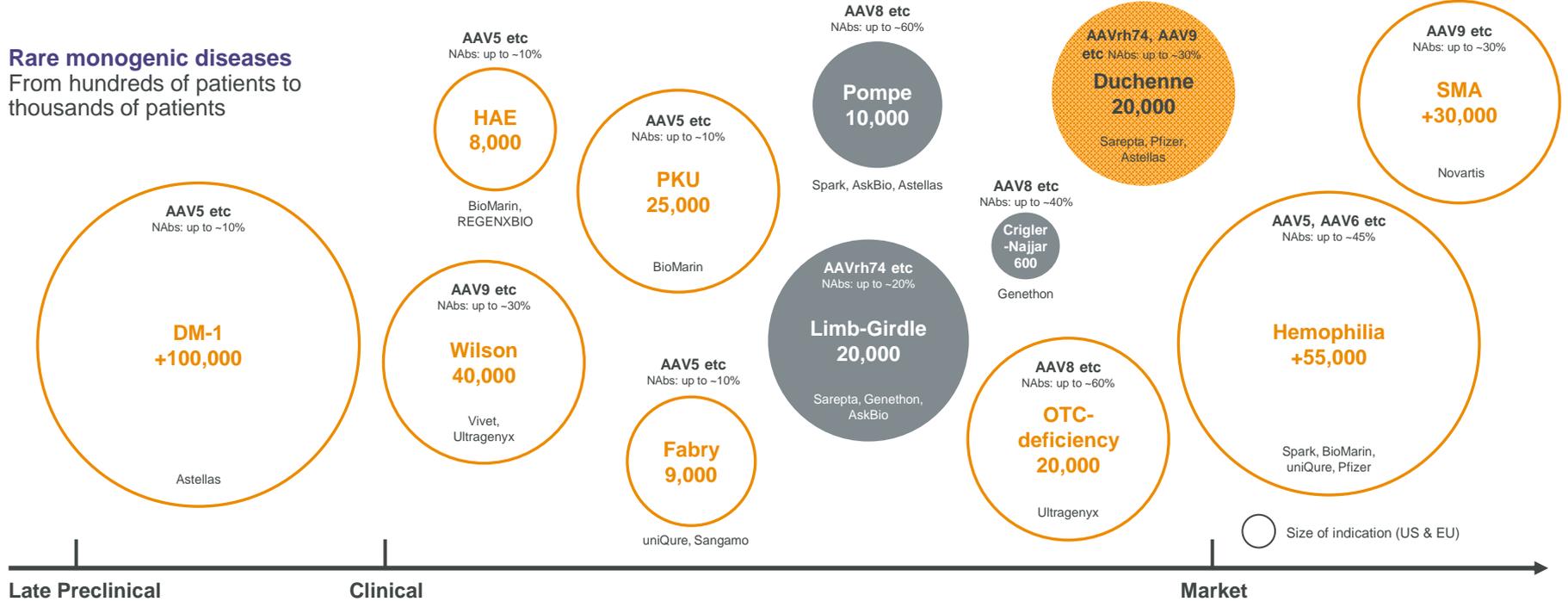
Partner	Access to key resources	Indication exclusivity	Collaborative research, development and commercialization				
	<ul style="list-style-type: none"> <li>World leader within gene therapy targeted at muscular dystrophies</li> <li>Pre-clinical and clinical plan</li> <li>Regulatory</li> <li>Promotion</li> <li>SRP-9001 PDUFA June 2023</li> </ul>	<p><b>Duchenne Muscular Dystrophy (DMD)</b> 1/3,500 to 5,000 male births worldwide</p> <p><b>Limb-Girdle Muscular Dystrophy</b> Global prevalence of ~1.6 per 100k individuals</p>					
	<ul style="list-style-type: none"> <li>Early innovator in gene therapy</li> <li>Conducts pre-clinical and clinical trials (Phase 1/2)</li> </ul>	<p><b>Pompe disease</b> Approximate incidence is 1 per 40,000 births, or ~200 per year in the US + EU</p>				<p><b>Exclusive option for AskBio to negotiate a potential full development and commercialization agreement</b></p>	
	<ul style="list-style-type: none"> <li>A pioneer in the discovery and development of gene therapies</li> <li>Conducts pre-clinical and clinical trials (Phase 1/2)</li> </ul>	<p><b>Crigler-Najjar syndrome</b> Approximately incidence is 0.6-1 case per one million people or 600 patients in Europe and the U.S</p>				<p><b>The initial agreement is focused on research and development</b> <b>The companies will consider a subsequent agreement for commercialization at a later stage</b></p>	

# Systemic gene therapy is an emerging opportunity

with a focus on the potential to correct issues causing genes in rare monogenic diseases

**Rare monogenic diseases**  
From hundreds of patients to thousands of patients

- Preclinical programs with Sarepta, AskBio and Genethon
- Planned clinical study with Sarepta
- Potential gene therapy indications (currently not pursued)



# Global and exclusive agreement with Sarepta Therapeutics

to develop and promote imlifidase as pre-treatment ahead of gene therapy in select indications



## Indication exclusivity:

- Duchenne Muscular Dystrophy (DMD)
- Limb-Girdle Muscular Dystrophy (LGMD)

## Hansa's key resources

- Imlifidase validated with positive clinical efficacy and safety data as well as European approval
- Positive preclinical data published in *Nature*
- Clear path to U.S. approval (kidney transplant)



## Sarepta's key resources

- World leader within gene therapy targeted at muscular dystrophies
- Pre-clinical plan: PoC and IND-tox
- Clinical / Regulatory
- Promotion

## Collaborative research, development and commercialization – working together at every stage

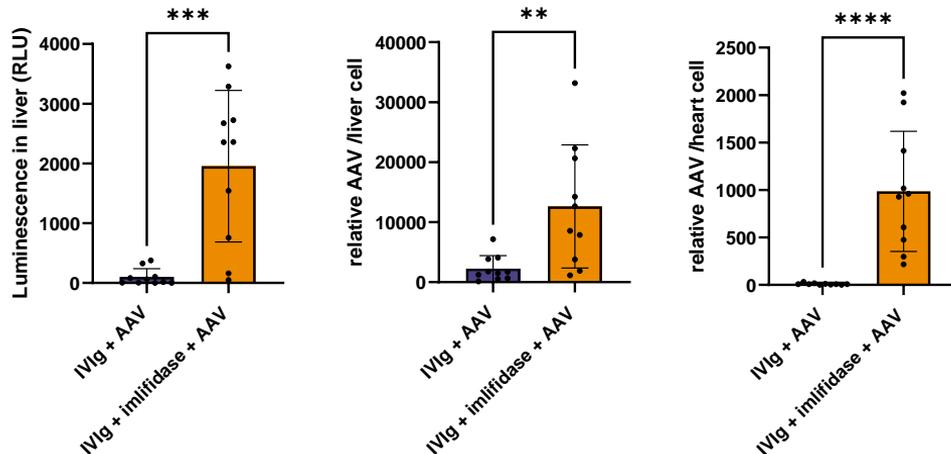


# Imlifidase facilitates transduction of AAV8 in a mouse model

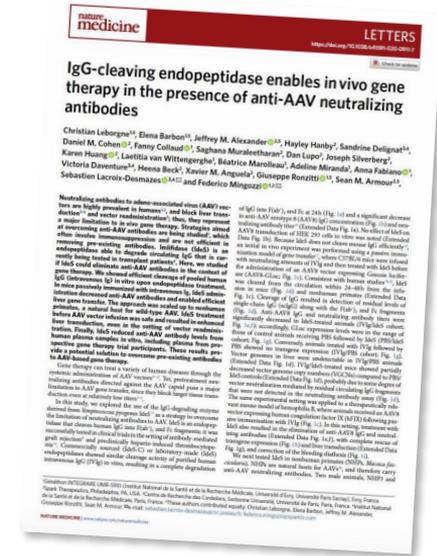
## Imlifidase treatment neutralises the inhibitory effect of IgG and facilitates AAV8 transduction in target cells

In severe combined immunodeficient mice pre-immunised with human IgG, the AAV transduction is significantly improved in the presence of imlifidase compared to without imlifidase

Imlifidase has previously been highlighted in Nature Medicine<sup>1</sup> with encouraging outcome



Mice administrated with IVIg and AAV8 viral vectors in the absence or presence of imlifidase. Transgene luciferase expression is measured in liver lysates as relative luminescence units (RLU) (a). Transduction was measured in both liver (b) and heart (c) by qPCR analysis of total DNA and calculated as the relative AAV8 genomes/cell using primers specific for viral genomes (ITR) and normalised against a mice reference gene (actin). Mann-Whitney test were performed to evaluate the significance of the difference between the two groups, \*\*p<0.01, \*\*\*p<0.001, \*\*\*\*p<0.0001. Data is presented as mean ± SD, n=10.



Leborgne et al. Nat Med (2020)

<sup>1</sup> Nature Medicine <https://doi.org/10.1038/s41591-020-0911-7>

# Duchenne muscular dystrophy (DMD) is progressive and causes irreversible muscle damage and loss of function

## Incidences

**1** in **3,500** to **5,000**

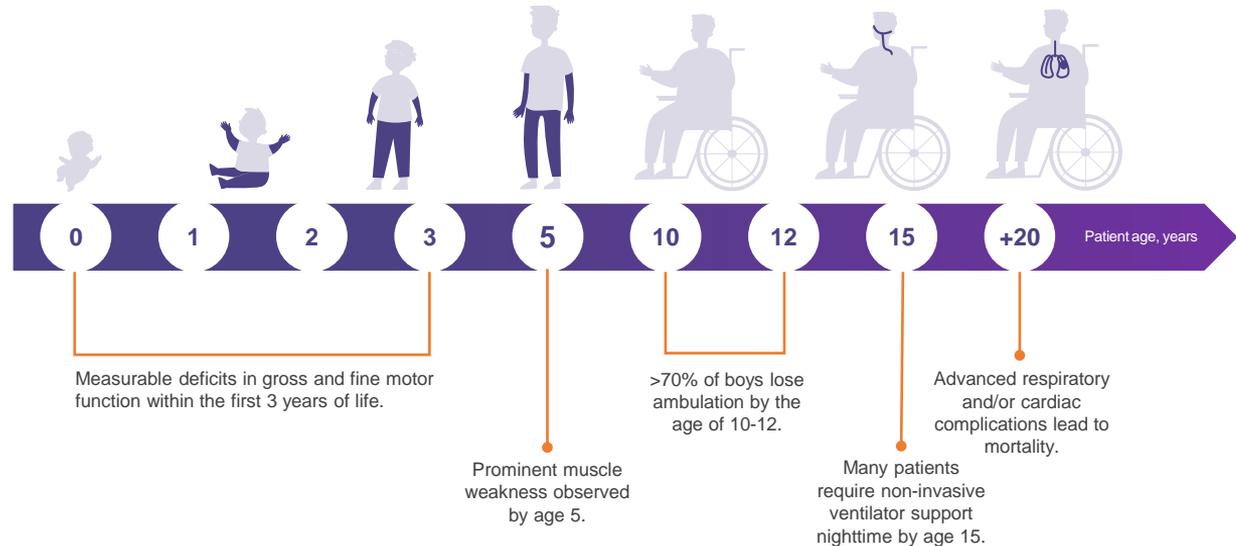
male births worldwide

**~14%** have pre-existing IgG antibodies to rh74

## High unmet need

- DMD is a rare, fatal neuromuscular genetic disease
- Muscle weakness noticeable by age 3-5, and most patients use a wheelchair by the time they are 12, many require respiratory aid by late teens.
- Life expectancy 26-30 years

## DMD signs at early age, with most patients using a wheelchair by age 12



# SRP-9001 has been rationally designed to maximize expression in tissues most affected by Duchenne

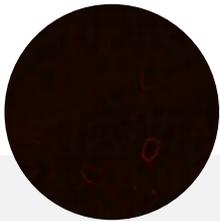
## SRP-9001 gene therapy treatment

- SRP-9001 (delandistrogene moxeparvovec) AAVrh74 vector with a micro-dystrophin transgene
- Functional benefit as well as micro-dystrophin expression demonstrated

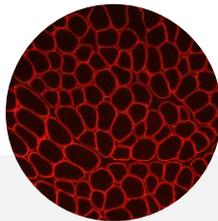
PDUFA date for SRP-9001 in DMD June 22

SRP-9001 treatment leads to restoration of DAPC, reduced CK, and improved histopathology

Pre-treatment



Post-treatment



**4- to 5-year-old group showed significant improvement in North Star Ambulatory Assessment (NSAA) vs. placebo at week 48**

*For more details and data regarding Sarepta's gene therapy programs, please refer to [www.sarepta.com](http://www.sarepta.com)*

# Limb-girdle muscular dystrophy (LGMD) is a group of diseases that cause weakness and wasting of the muscles

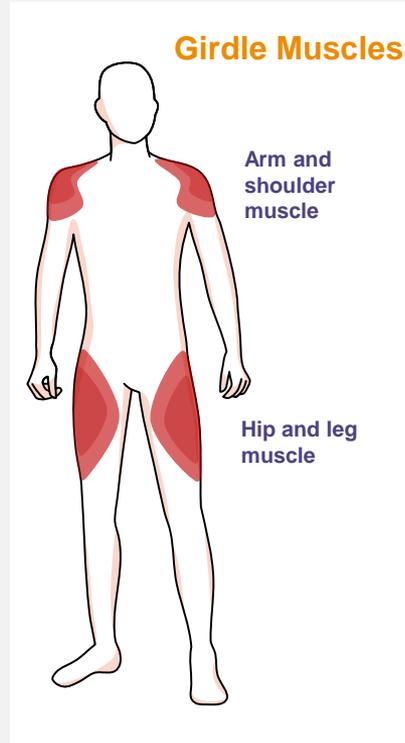
## Incidences

**1.63** per **100,000** individuals;  
over 30 subtypes exist, and both  
genders are affected equally.

**~15%** of patients have pre-  
existing IgG antibodies to rh74

## Indication

- Limb-Girdle can be caused by a single gene defect that affects specific proteins within the muscle cell
- Symptoms may appear at any age. Patients may have trouble getting out of chairs or climbing stairs. Eventually, they may need a wheelchair to get around.



## SRP-9003 $\beta$ -sarcoglycan (SGCB) gene therapy for treatment of LGMD2E

### Initiation of VOYAGENE

On Feb 17, 2023, Sarepta announced that it had commenced dosing in the VOYAGENE study (Study SRP-9003-102) a Phase 1 trial of SRP-9003,

VOYAGENE is a U.S.-only study that will enroll ambulant patients aged 18 years or older and non-ambulant patients, ages 4-50 years, using clinical process SRP-9003 material.

Following positive results in the initial Phase 1 study SRP-9003-101 exploring two different doses, the VOYAGENE study will allow gathering additional data on the intended dose of SRP-9003 in a broader population of patients while finalizing plans for a global Phase 3 study (SRP-9003-301) that utilizes commercially representative material.

More information on the study is available at <https://genesislcmd.com/study/voyagene>

# Pompe disease, an ultra-rare disease is caused by the deficiency of an enzyme called alpha-glucosidase (GAA)

## Incidences

An ultra-rare indication impacting

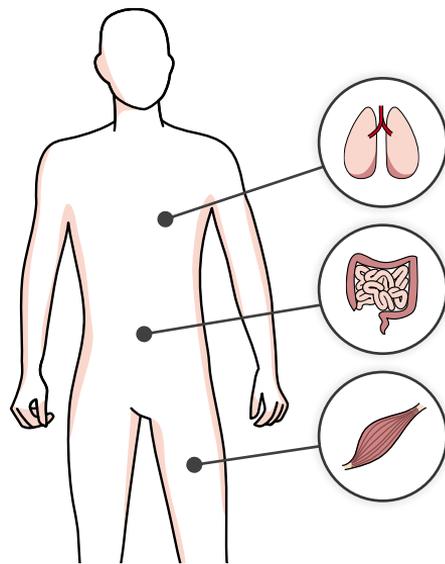
**1** in **40,000** births or **~200** cases per year across US and Europe

**~40-60%** patients have pre-existing IgG antibodies to AAV8

## Indication

- Defect in a gene making an enzyme called acid alpha-glucosidase (GAA), which is used to break down glycogen
- Accumulation of glycogen result in severe impact on the normal organ and muscle function

## Late Onset Pompe Disease



### Respiratory

- Respiratory failure
- Diaphragm weakness, sleep-disordered breathing
- Orthopnoea, dyspnea, aspiration

### Gastrointestinal

- Difficulty chewing/jaw muscle fatigue
- Poor weight gain/maintenance
- Swallowing difficulties/weak tongue

### Musculoskeletal

- Proximal muscle weakness, muscle pain
- Frequent falls, gait abnormalities, difficulty walking/climbing stairs/getting up
- EMG abnormalities, elevated CK, MRI changes

Sources:

1. AskBio.com, [www.askbio.com](http://www.askbio.com)
2. Rare diseases.org <https://rare-diseases.org/rare-diseases/pompe-disease/>

# Collaboration with AskBio to evaluate imlifidase in gene therapy targeting Pompe disease

Feasibility program to evaluate imlifidase as pre-treatment ahead of gene therapy in Pompe disease for patients with pre-existing neutralizing antibodies (NAbs) to adeno-associated virus (AAV)



## Hansa's key resources and deliverables

- Imlifidase validated with positive clinical efficacy and safety data as well as European approval and clear path to U.S. approval
- Significant know-how around antibody cleaving enzymes
- Hansa supplies material and provides additional support



Fully owned subsidiary of Bayer AG

## AskBio's key resources and deliverables

- Early innovator in the Gene Therapy space with AAV platform and ongoing clinical stage Pompe disease program
- Conducts pre-clinical and clinical trials according to agreed plan

## AskBio's AAV2/8-LSPHGA gene therapy

- AAV2 vector genome cross-packaged as AAV8
- Liver-specific promoter to express GAA enzyme
- Open label Phase I/II study ongoing
- Study in 13 late-onset Pompe Disease patients

## Current agreement scoped around a feasibility program



Upfront fee of USD 5m

**Exclusive option for AskBio to negotiate a potential full development and commercialization agreement**

# Crigler-Najjar (CN) syndrome is an ultra-rare hereditary disorder caused by deficiency in UGT1A1 (liver enzyme)

## Incidences

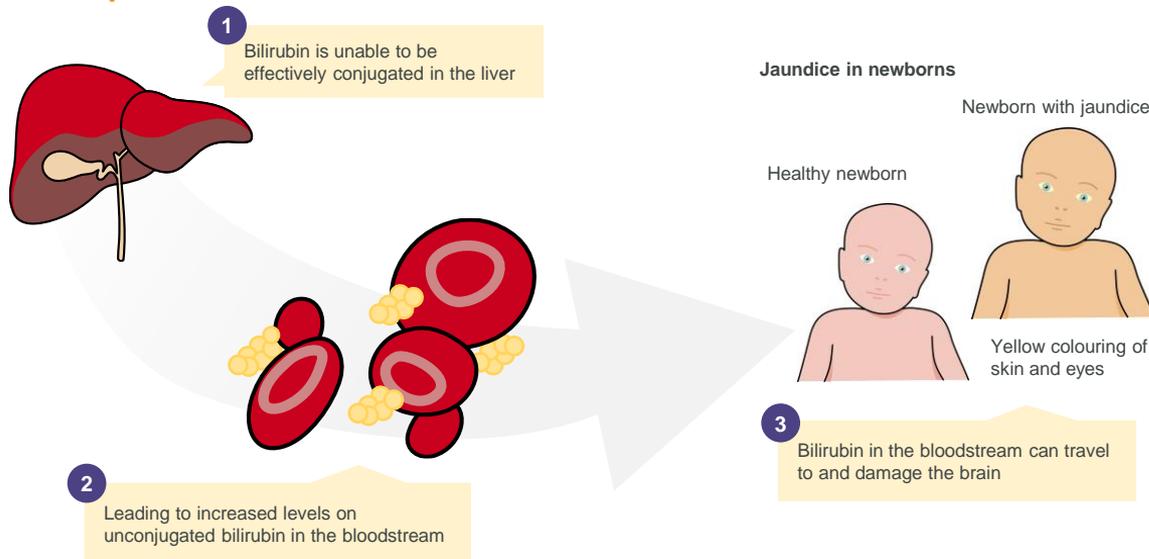
An ultra-rare indication impacting  
**0.6-1** per **1,000,000**  
newborns around the world<sup>1,2</sup>

**~30%** of patients have pre-existing  
IgG antibodies to AAV8

## Indication

- Build-up of free bilirubin in serum and body tissues, which can become toxic in the brain<sup>3</sup>
- Severity can vary from mild to severe, no medication approved for treatment so far

## Build-up of free bilirubin in serum and tissue can become toxic in the brain



Sources:  
<sup>1</sup> Collaud F, Bortolussi G, Guianvarc'h L, Aronson SJ, Bordet T, Veron P, Charles S, Vidal P, Sola MS, Rundwasser S, Dufour DG, Lacoste F, Luc C, Wittenberghe LV, Martin S, Le Bec C, Bosma PJ, Muro AF, Ronzitti G, Hebben M, Mingozzi F. Preclinical Development of an AAV8-hUGT1A1 Vector for the Treatment of Crigler-Najjar Syndrome. Mol Ther Methods Clin Dev. 2019 Mar 15;12:157-174.  
<sup>2</sup> Ebrahimi A, Rahim F. Crigler-Najjar Syndrome: Current Perspectives and the Application of Clinical Genetics. Endocr Metab Immune Disord Drug Targets. 2018;18(3):201-211.  
<sup>3</sup> American Liver Foundation, <https://liverfoundation.org/liver-diseases/pediatric-liver-information-center/pediatric-liver-disease/crigler-najjar-syndrome/> [Accessed 2023-06-13]

# Collaboration with Genethon to evaluate imlifidase in gene therapy targeting Crigler-Najjar Syndrome



## Hansa's key resources and deliverables

- Imlifidase validated with positive clinical efficacy and safety data as well as European approval and clear path to U.S. approval
- Significant know-how around antibody cleaving enzymes
- Hansa supplies material and provides additional support



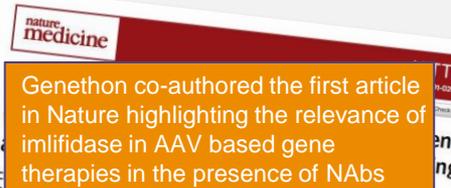
## Genethon's key resources and deliverables

- A pioneer in the discovery and development of gene therapies
- A not-for-profit organization
- Conducts pre-clinical and clinical trials (Phase 1/2)

## Initial agreement focused on research and development



Upon completion the two companies will consider a subsequent agreement for commercialization

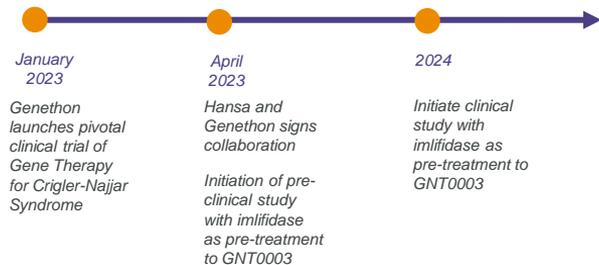


# Feasibility program to evaluate imlifidase as pre-treatment to Genethon's gene therapy in patients with severe Crigler-Najjar syndrome

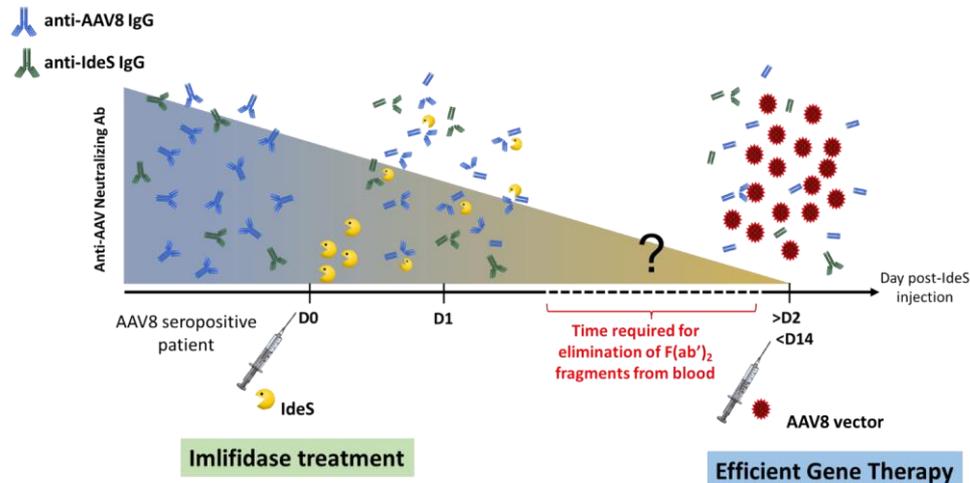
## Study design and timeline

- Study expected in a small patient population
- GNT0003: 5E12 vg/kg
- Imlifidase: 0.25 mg/kg (possible with two doses)

### Timeline



## Evaluation of safety and efficacy of “GNT0003” in seropositive to AAV8 patients pre-treated with imlifidase



# Concluding remarks and Q&A

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**Søren Tulstrup**

President & CEO



# Our strategic priorities

Our mission is to become a global leader in rare diseases



## Commercialize Idefirix® in first indications and markets

- Successfully launch Idefirix® in Europe
- Secure FDA approval and launch Idefirix® in the U.S.
- Geographical expansion



## Advance ongoing imlifidase clinical programs in transplantation and autoimmune diseases

- Achieve approval/usage of imlifidase in follow-on indications
- Broaden our Idefirix® label beyond kidney transplantation



## Expand IgG-cleaving enzyme technology platform into new disease areas and indications

- Explore gene therapy opportunity
- Explore opportunities in Oncology and stem cell transplantation (HSCT)
- Develop our next generation IgG-cleaving enzymes to allow for recurring treatment

**Build focused, integrated, agile and empowered international organization and seek partnerships to accelerate growth and reduce risk**



**HANSA**

BIOPHARMA