



Presentation

Redeye Life Science Day

*Stockholm, November 19, 2019*

*Klaus Sindahl, Head of IR*



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# Hansa Biopharma at a glance



## Company background

- Founded 2007 with HQ in Lund, Sweden
- Sören Tulstrup, CEO – Ulf Wiinberg, Chairman
- 64 employees (~3/4 in R&D) at Sep 30, 2019
- Operations in Sweden, US & Europe
- Market cap: SEK ~6bn (USD ~600m) Oct, 2019
- Listed on Nasdaq OMX Stockholm (HSNA)



## Leader in immunomodulatory enzymes for rare IgG-mediated diseases

- Imlifidase is a unique IgG antibody-cleaving enzyme
- Imlifidase has been studied in five clinical studies and published in peer-reviewed journals (e.g. New England Journal of Medicine and the American Journal of Transplantation)
- If approved, Imlifidase may have the potential to meet a large unmet need and transforming the lives of people with rare disease



## Broad pipeline in transplantation and autoimmune diseases

- Lead indication in kidney transplantation in highly sensitized patients (MAA under review by EMA)
- Anti-GBM antibody disease (Phase 2)
- Antibody mediated kidney transplant rejection (AMR) (Phase 2)
- Guillain-Barré syndrome (Phase 2)
- NiceR - Recurring treatment in autoimmune disease, transplantation and oncology (Preclinical)
- EnzE – Cancer immunotherapy (Preclinical)



## Key Financials

- |                       |                 |
|-----------------------|-----------------|
| • Cash position       | 9m'19 SEK 680m  |
| • Operating Cash Flow | 9m'19 SEK -260m |
| • R&D cost            | 9m'19 SEK -135m |
| • Net Profit          | 9m'19 SEK -249m |

*...at Hansa Biopharma we envision a world where all patients with rare immunologic diseases can lead long and healthy lives...*

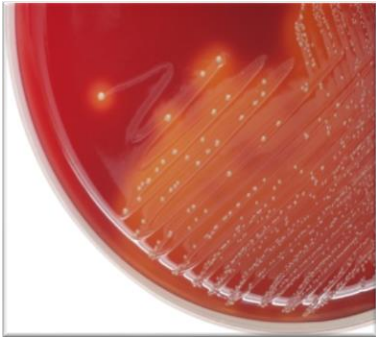


# Imlifidase, a novel approach with a rapid onset of action to eliminate pathogenic IgG with high specificity



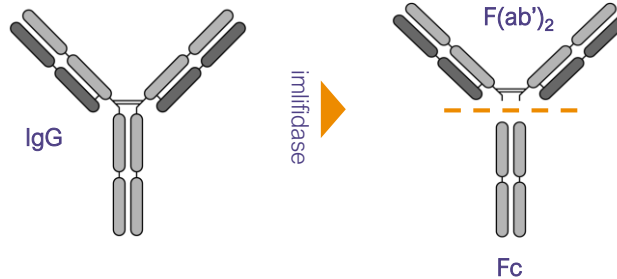
## Origins from *Streptococcus pyogenes*

- Species of Gram-positive, spherical bacteria in the genus *Streptococcus*
- Usually known from causing a strep throat infection



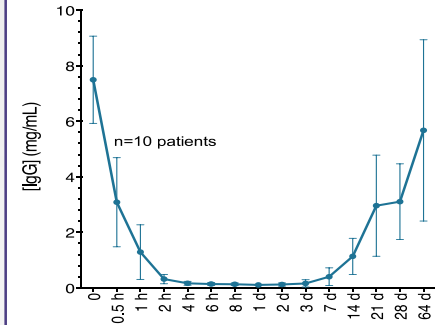
## Imlifidase, a unique IgG antibody-cleaving enzyme

- Interacts with Fc-part of IgG with extremely high specificity
- Cleaves IgG at the hinge region, generating one  $F(ab')_2$  fragment and one homo-dimeric Fc-fragment



## Imlifidase inactivates IgG in 2 hours

- Rapid onset of action that inactivates IgG below detectable level in 2 hours
- IgG antibody-free window for approximately one week



# Imlifidase enabled kidney transplantation in highly sensitized patients

## Pooled analysis of four Phase 2 trials presented

- Analysis included 46 patients
  - 50% had a cPRA of 100% (Average 99%)
  - 85% were crossmatch positive
  - 70% were retransplanted
- Donor Specific Antibody (DSA) levels rapidly decreased and all crossmatches were converted to negative, thus enabling transplantation in all patients
- At study completion, all patients alive and graft survival at 94% six months post transplantation.

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# Imlifidase may enable transplantation in highly sensitized kidney patients

## Creating equity for highly sensitized patients

- Allocation systems increase transplantation rates, however the rates for highly sensitized patients are still very low compared with average or non-sensitized patients
- If approved, imlifidase may potentially:
  - Complement allocation systems (e.g. KAS, Euro-transplant) to reduce time to transplant in highly sensitized patients
  - Reduce the need for antibody matching and give sensitized patients access to a larger pool of organs
  - Reduce the risk for co-morbidities and mortality associated with dialysis and waiting time
  - Increase transplant rates in highly sensitized patients
  - Help reduce the number of discarded kidneys (1,000 donated kidneys are discarded in the U.S. alone every year<sup>3</sup>)

<sup>1</sup> Jordan et al. British Medical Bulletin, 2015, 114:113–125

<sup>2</sup> Orandi et al. N Engl J Med 2016;374:940-50

<sup>3</sup> Organ Procurement and Transplantation Network (OPTN)

<sup>4</sup> Jordan et al. British Medical Bulletin, 2015, 114:113-125

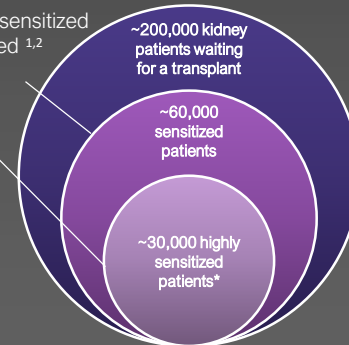


*Delilah, a 23 years old highly sensitized kidney transplant patient from California*

## U.S. + EU Kidney Transplant Waitlist Breakdown

>30% of waitlist patients are sensitized

- 15% moderately sensitized<sup>1,2</sup>
- 15% highly sensitized<sup>1,2 \*</sup>



~40,000 transplants done annually in the US and EU.

\*Patients with sensitivity above cPRA 80%

Source: The U.S. Department of Health and Human Services and .irodat.org



# High unmet medical need in spite of updated Kidney Allocation System

## Imlifidase may potentially complement KAS

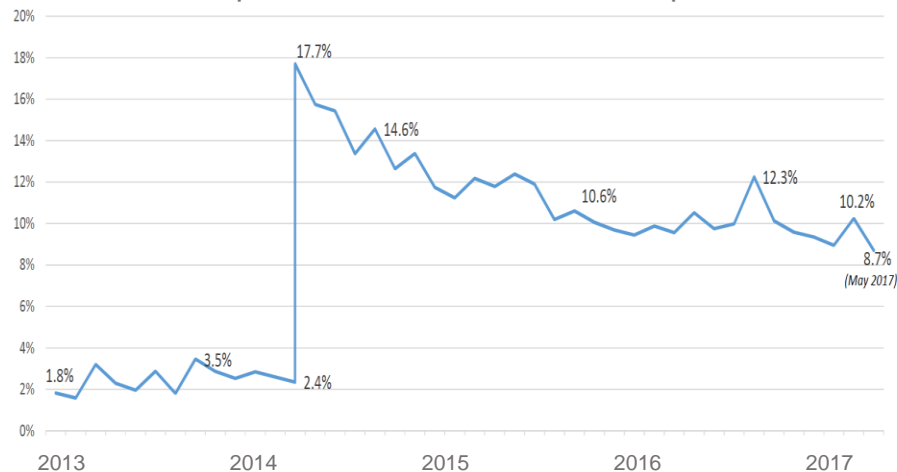
- The Kidney Allocation System (KAS) in U.S. was updated in 2014 to prioritize national allocation for highly sensitized patients
- Implementation initially resulted in a bolus effect; however a group of highly sensitized patients are still not helped due to lack of matched organs
- If approved, imlifidase may potentially complement allocation systems like KAS and Euro-transplant and reduce time to transplant in highly sensitized patients

*"We thought the KAS would be very good, but the experience was different. I don't think you can have a bureaucratic solution for an immunologic problem, we have to face that we do need drugs to deal not only with acute antibodies but also with the rebound."*

Stanley Jordan M.D., Director Kidney Transplantation and Transplant Immunology at the Cedars-Sinai Medical Center in LA.

## Significant number of highly sensitized patients remains on the waiting list post KAS

% of Transplants of cPRA 99%-100% recipients



Source:  
OPTN/UNOS  
Darren Stewart, MS,  
UNOS Research Department



# Regulatory review with EMA is progressing as expected

## Imlifidase in kidney transplantation

### Europe (EMA)

- MAA for imlifidase accepted end of Feb'19; regulatory review progressing as expected
- Opinion from Committee for Medicinal Products for Human Use (CHMP) expected during the first half of 2020
- Decision by European Commission expected June/July 2020

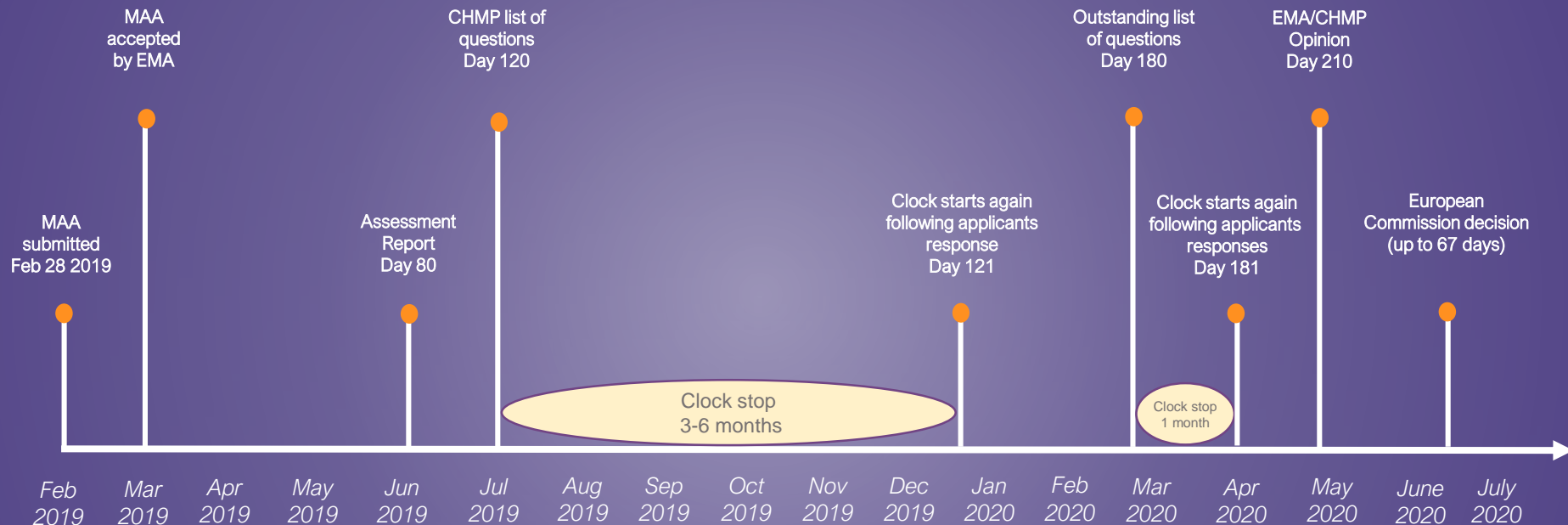
### U.S. (FDA)

- Follow-up meeting with the U.S. Food and Drug Administration scheduled for November 20, 2019 to discuss regulatory path forward in the U.S.
- Minutes from the meeting is expected by end of December





# The EMA process towards marketing authorization



# Focused launch strategy optimizes patient access to imlifidase

## Strong outreach with limited footprint in EU

- Building awareness through MSL and Patient Advocacy
  - MSL organization established in key markets
  - MSLs educate KOLs and physicians at transplantation clinics
  - Reaching out to healthcare providers through Patient Advocacy
- A sequenced and focused launch strategy
  - In EU5, 70-80% of all kidney transplantations are performed at 15-20 centers in each EU5 country
  - Potential Initial launch in early launch countries in the second half of 2020 followed by second wave launch countries



# Broad pipeline in transplantation and auto-immune diseases

Candidate / Projecting	Indication	Research/ Preclinical	Phase 1 <sup>1</sup>	Pivotal program/ Phase 2	Marketing Authorization	Marketed	Next Anticipated Milestone
Imlifidase	Kidney transplantation in highly sensitized patients	<div></div>	<div></div>	<div></div>	<div>*)</div>		MAA review by EMA Follow-up meeting with FDA Nov 20, 2019
	Anti-GBM antibody disease	<div></div>	<div></div>	<div></div>			Complete enrollment
	Antibody mediated kidney transplant rejection (AMR)	<div></div>	<div></div>	<div></div>			Complete enrollment
	Guillain-Barré syndrome	<div></div>	<div></div>	<div></div>			Complete enrollment
NiceR	Recurring treatment in autoimmune disease, transplantation and oncology	<div></div>					Development of CMC process / Tox studies
EnzE	Cancer immunotherapy	<div></div>					Research phase

Completed
 Ongoing

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

\*) EMA: In imlifidase for kidney transplantation we have filed for conditional approval after completion of phase 2. A confirmatory study would need to be executed in case of approval.

FDA: Discussion on path forward in the US is still ongoing.

# Upcoming milestones

