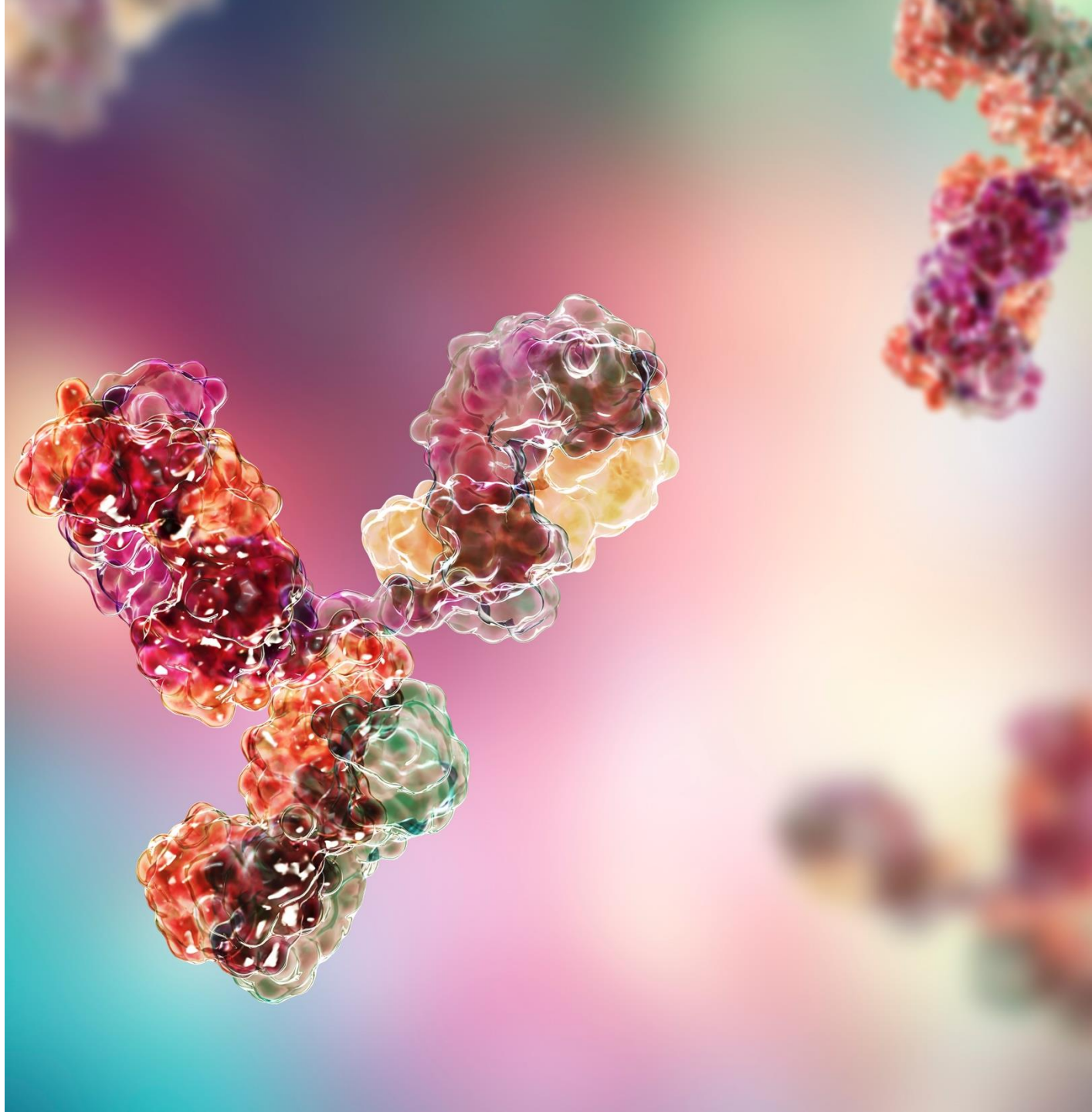




## Corporate Presentation

February 2025



# Forward-looking statements

This presentation may contain certain forward-looking statements and forecasts based on our current expectations and beliefs regarding future events and are subject to significant uncertainties and risks since they relate to events and depend on circumstances that will occur in the future. Some of these forward-looking statements, by their nature, could have an impact on Hansa Biopharma's business, financial condition and results of operations [or that of its parent, affiliate, or subsidiary companies]. Terms such as "anticipates", "assumes", "believes", "can", "could", "estimates", "expects", "forecasts", "intends", "may", "might", "plans", "should", "projects", "will", "would" or, in each case, their negative, or other variations or comparable terminology are used to identify forward-looking statements. There are a number of factors that could cause actual results and developments to differ materially from those projected, whether expressly or impliedly, in a forward-looking statement or affect the extent to which a particular projection is realized. Such factors may include, but are not limited to, changes in implementation of Hansa Biopharma's strategy and its ability to further grow; risks and uncertainties associated with the development and/or approval of Hansa Biopharma's product candidates; ongoing clinical trials and expected trial results; the ability to commercialize imlifidase if approved; changes in legal or regulatory frameworks, requirements, or standards; technology changes and new products in Hansa Biopharma's potential market and industry; the ability to develop new products and enhance existing products; the impact of competition, changes in general economy and industry conditions and legislative, regulatory and political factors.

The factors set forth above are not exhaustive and additional factors could adversely affect our business and financial performance. We operate in a very competitive and rapidly changing environment, and it is not possible to predict all factors, nor can we assess the impact of all factors on our business or the extent to which any factor, or combination of factors, may cause actual results to differ materially from those contained in any forward-looking statements. Given these risks and uncertainties, investors should not place undue reliance on forward-looking statements as a prediction of actual results.

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# Hansa is a pioneer in the development and commercialization of first in class IgG-cleaving enzymes

## Commercial stage, derisked first-in-class asset

- ✓ Commercial stage IgG cleaving enzyme
- ✓ Long-term data supports value-proposition
- ✓ Over 200 patients treated, showcasing both clinical trial and real-world safety, tolerability and efficacy
- ✓ Commercial-scale manufacturing to support current and future launches



## Validated pipeline across three therapy areas

### 1 TRANSPLANTATION

Paradigm shift for highly sensitized kidney transplant patients  
Pivotal Phase 3 trial in the U.S.

### 2 AUTOIMMUNE


Clinical POC for imlifidase in acute monophasic disorders.  
Global Phase 3 in anti-GBM fully enrolled and positive Phase 2 in GBS


HNSA-5487 focused in neuro-autoimmune diseases with ability to re-dose

### 3 GENE THERAPY

Partnerships for pre-treatment to enable AAV gene therapy in patients with anti-AAV antibodies

## Funded through key milestones

 Funded into **2026**

 Publicly traded on **NASDAQ Stockholm**  
Significant ownership from global biotech specialist investor  
Considering dual-listing on **NASDAQ**

 **Strong IP portfolio**, with coverage until the 2040s

## Near-term milestones

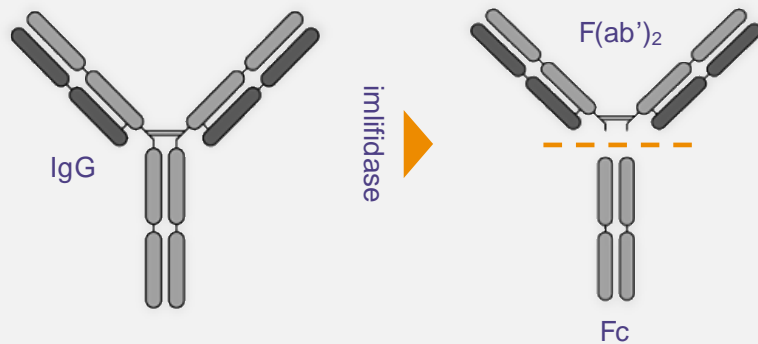
Phase 2 GBS full data  
First clinical data in gene therapy (Sarepta)  
FDA BLA submission in kidney transplantation

# Two novel molecules with potential for broad application in Autoimmune, Gene Therapy and Transplantation

## Two IgG- cleaving compounds

### IMLIFIDASE

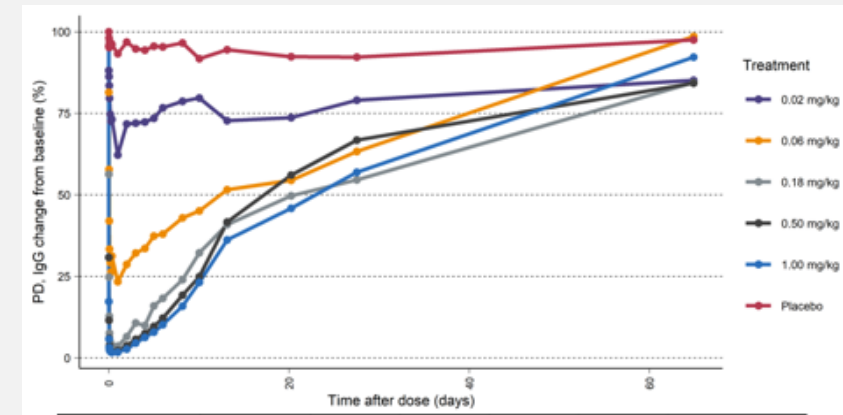
First generation, first-in-class, one-time dosing therapy with proven efficacy and safety



- Reduces IgG in 2-6 hours
- Conditionally approved and commercialized in the EU for desensitization in kidney transplantation
- Eight clinical trials in 7 indications across key therapy areas

### HNSA-5487

Next generation molecule with redosing potential



	0.02 mg/kg n=4	0.06 mg/kg n=4	0.18 mg/kg n=6	0.50 mg/kg n=6	1.00 mg/kg n=6	Imlifidase** 0.25 mg/kg n=23
Responders*	0%	25%	83%	100%	100%	88%

\* A subject with IgG level <5% of baseline 24 hours post dosing  
\*\* Data from 19-11Med15-15 and 21-11Med15-25

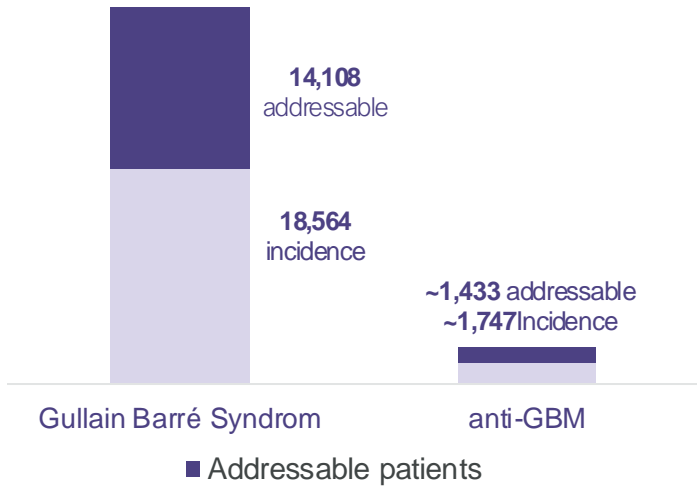
- Rapid and robust reduction in IgG (>95%) with confirmed redosing potential
- Clinical development path focused on acute exacerbations in neuro-autoimmune diseases

# Significant addressable patient populations in areas of high unmet medical need

## AUTOIMMUNE

IVIg market growth \$40B by 2032

### Europe and US

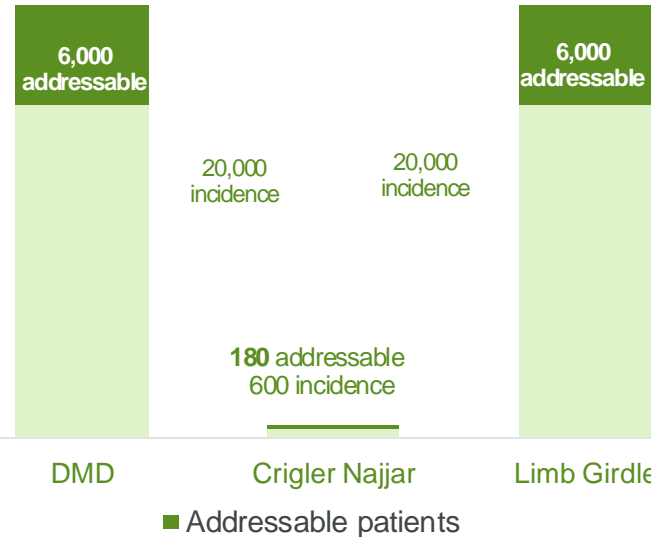


**Addressable Populations:** GBS: 14,108  
Anti-GBM: 1,433

## GENE THERAPY

GT market expected to reach \$23.9B by 2028

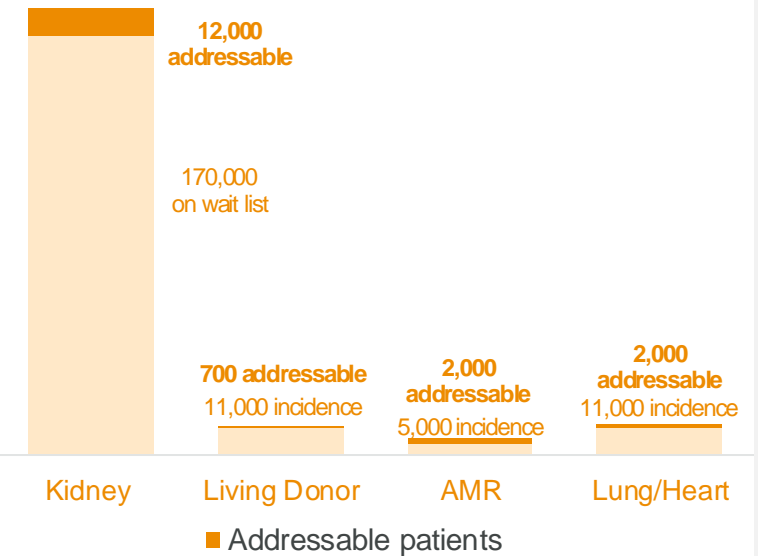
### Europe and US



**Addressable Populations:** DMD: 6,000  
CNS: 180  
LGMD: 6,000

## TRANSPLANTATION

*Imlifidase: first and only approved treatment in highly sensitized transplantation*



**Addressable Populations:** Kidney: 12,000  
Adjacent: ~5,000

**GBS**  
McGrogin, A., Madh, G.C., Seaman, H.E., et al. (2009) The Epidemiology of Guillain-Barré Syndrome Worldwide. *Neuroepidemiology*, 32, 150-163

**Anti-GBM**  
Canney et al. Spatial and Temporal Clustering of Anti-Glomerular Basement Membrane Disease. *Clin J Am Soc Nephrol*. 2016 Aug 8;11(8):1392-1399

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Global Observatory on Donation and Transplantation. <https://www.transplant-observatory.org/explore/database/>. Accessed February 24, 2025.

Appel J, Hartwig M, R. Davis D, Reinsmoen N, Ullery of Post-transplant and Rescue Intravenous Immunoglobulin and Extracorporeal Immunosorption in Lung Transplant Recipients Sensitized to HLA Antigens. *Human Immunology*, Volume 66, Issue 4, 2005, Pages 378-386, ISSN 0198-8859, <https://doi.org/10.1016/j.humimm.2005.01.025>.

Witt CA, Gaut JP, Yusen RD, Byers DE, Ippa JA, Bennett Bain K, Alexander Paterson G, Mohanakumar T, Trulock EP, Hachem RR. Acute antibody-mediated rejection after lung transplantation. *J Heart Lung Transplant*. 2013 Oct;32(10):1034-40. doi: 10.1016/j.healun.2013.07.004. Epub 2013 Aug 13. PMID: 23953920; PMCID: PMC3822761.

Schinstock C, Stegall, M.D. Acute Antibody-Mediated Rejection in Renal Transplantation: Current Clinical Management. *Curr Transpl Rep* 1, 78-85 (2014). <https://doi.org/10.1007/s40472-014-0017-9>

**AMR**  
Wu GW, Kobashigawa JA, Fishbein MC, Patel JK, Kittleson MM, Reed EF, Kiyosaki KK, Adeshali A. Asymptomatic antibody-mediated rejection after heart transplantation predicts poor outcomes. *J Heart Lung Transplant*. 2009 May;28(5):417-22. doi: 10.1016/j.healun.2009.01.015. Epub 2009 Mar 14. PMID: 19416767; PMCID: PMC3829690.

Kobashigawa, J.A., et al. Post-Transplant Outcome of the Highly Sensitized Patient Awaiting Heart Transplant Treated with Desensitization. *The Journal of Heart and Lung Transplantation*, Volume 40, Issue 4, S44

**Gene Therapy**  
Muscular Dystrophy Association. Duchenne Muscular Dystrophy Fact Sheet. [https://www.mda.org/sites/default/files/2019/03/Duchenne\\_Muscular\\_Dystrophy\\_Fact\\_Sheet.pdf](https://www.mda.org/sites/default/files/2019/03/Duchenne_Muscular_Dystrophy_Fact_Sheet.pdf). Accessed February 2025.

Collaud F, Botolousa G, Guasparich L, Atkinson SJ, Bordet T, Veron P, Chafes S, Vidal P, Sola MS, Rundwaser S, Dufour DG, Lacosse F, Luc C, Wittenbergho LV, Martin S, Le Bec C, Bosma PJ, Muro AF, Ronzitti G, Hebben M, Mingozi F. Preclinical Development of an AAV-hUGT1A1 Vector for the Treatment of Crigler-Najjar Syndrome. *Mol Ther Methods Clin Dev*. 2019 Mar 15;12:157-174.

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.

Mah JK, Korngut L, Fiesl KM, Dykeman L, Day LJ, Pringheim T, Jette N. A Systematic Review and Meta-analysis on the Epidemiology of the Muscular Dystrophies. *Can J Neurol Sci*. 2015 Jan;43(1):163-77. doi: 10.1017/gn.2015.311. PMID: 26786644.

# IgG-driven diseases and conditions are a significant burden on people, systems and society



## Pathogenic IgG is a key element in several diseases and conditions

Excessive or dysregulated immune responses represent a central driving force in many inflammatory and autoimmune diseases



## Rapid reduction of IgG levels has the potential to benefit patients

Depletion of IgG antibodies may halt disease progression and prevent organ damage. Imlifidase and HNSA-5487 effectively and very rapidly cleave IgG.



## Safe, targeted treatment options are needed

Many immune-mediated diseases have limited, or no FDA approved treatments. There remain insufficient treatment options for the acute phases.



## The global immunoglobulin market is expected to grow exponentially

The immunoglobulin market is expected to reach ~\$40B by 2032. Immune-mediated diseases are the largest field of research behind oncology.

Molnes IB, Gravalles EM. Immune-mediated inflammatory disease therapeutics: past, present and future. *Nat Rev Immunol*. 2021 Oct;21(10):680-686. doi: 10.1038/s41577-021-00603-1. Epub 2021 Sep 13. PMID: 34518662; PMCID: PMC8436867.  
Ortega MA, Garcia-Montero C, Fraile-Martinez O, Alvarez-Mon MA, Gómez-Lahoz AM, Lahera G, Monserrat J, Rodriguez-Jimenez R, Quintero J, Alvarez-Mon M. Immune-Mediated Diseases from the Point of View of Psychoneuroimmunomodology. *Biology (Basel)*. 2022 Jun 28;11(7):973. doi: 10.3390/biology11070973. PMID: 36101354; PMCID: PMC912038.  
Improving Care in Immune-mediated diseases. November 2, 2022. Boston Consulting Group. <https://www.bcg.com/publications/2022/improving-research-and-development-in-pharma-industry-for-immune-mediated-diseases>. Accessed 2 January 2025.  
IgG Mediated Autoimmune Diseases Biologic Drugs Market (2024 Edition): Analysis by Antibody Source (Humanized, Fully Human, Chimeric, Other Sources), by Indication, by Region, by Country; Market Insights and Forecast (2019-2029). [https://www.researchandmarkets.com/report/global-igg-mediated-autoimmune-diseases-biologic-drugs-market?utm\\_source=GNE&utm\\_medium=PressRelease&utm\\_code=w2kv2&utm\\_campaign=1998450+-+IgG+Mediated+Autoimmune+Diseases+Biologic+Drugs+Research+Report+2024%3a+Humanized%2c+Fully+Human%2c+Chimeric%2c+Other+Sources+Insights+and+Forecasts+20192023+%26+2024-2029&utm\\_exec=chdomspi](https://www.researchandmarkets.com/report/global-igg-mediated-autoimmune-diseases-biologic-drugs-market?utm_source=GNE&utm_medium=PressRelease&utm_code=w2kv2&utm_campaign=1998450+-+IgG+Mediated+Autoimmune+Diseases+Biologic+Drugs+Research+Report+2024%3a+Humanized%2c+Fully+Human%2c+Chimeric%2c+Other+Sources+Insights+and+Forecasts+20192023+%26+2024-2029&utm_exec=chdomspi). Accessed 2 January 2025.  
Immunoglobulin Market Size, Share & Industry Analysis, by Route of Administration (Intravenous and Subcutaneous), by Indication (Primary Immunodeficiency, Secondary Immunodeficiency, Chronic Inflammatory Demyelinating Polyneuropathy, Guillain-Barré Syndrome, Immune Thrombocytopenic Purpura, Multifocal Motor Neuropathy, and Others), by Form (Liquid and Lyophilized), by End-user (Hospitals, Clinics, and Homecare), and Regional Forecast, 2024-2032. <https://www.fortunebusinessinsights.com/industry-reports/immunoglobulins-market-100571>. Accessed 2 January 2025.  
Cherif P, Marie I, Michallet M, et al. Management of adverse events in the treatment of patients with immunoglobulin therapy: A review of evidence. *Autoimmun Rev*. 2016 Jan;15(1):71-81. doi: 10.1016/j.autrev.2015.09.002. Epub 2015

# Hansa's IgG cleaving enzymes could be a transformative approach to treating IgG driven immune-mediated diseases

## Addressing Autoimmune Diseases

80+ autoimmune diseases, including GBS (150K cases/year WW), anti-GBM (1.6 people per million/year), and myasthenia gravis (83K people in the US).





## Democratizing Gene Therapy

7,000+ monogenic gene diseases. Gene therapy can be life changing. Up to 1 in 3 people are not eligible due to high anti-AAV antibodies.

## Allowing More Transplants

High IgG levels limit organ transplants in 10-15% of the >170k patients waiting for a kidney. Potential for use in other organ transplants.

# Broad clinical pipeline

	Preclinical	Phase 1	Phase 2	Phase 3	Marketing authorization	Marketed	Partner	Status	Next anticipated milestone
<b>Imlifidase</b>									
EU: Kidney transplantation in highly sensitized patients <sup>1,2</sup>								Commercialization ongoing ● Post approval Clinical Phase 3 ongoing	EU: Additional agreements around reimbursement / Post authorization study to be completed by end of 2025
U.S. “ConfIdeS”: Kidney transplantation in highly sensitized patients <sup>1,2</sup>								Clinical Phase 3 ongoing	Data readout in 2H 2025
GOOD-IDES-02: Anti-GBM antibody disease								Clinical Phase 3 ongoing	Data readout in 2025
16-HMedIdeS-12: Active Antibody Mediated Rejection (AMR)								Clinical Phase 2 completed	
15-HMedIdeS-09: Guillain-Barré Syndrome (GBS)								Clinical Phase 2 completed	Publication in peer-reviewed journal Preparation of Phase 3 trial
Investigator-initiated trial in ANCA-associated vasculitis <sup>3</sup>								Clinical Phase 2 ongoing	Complete enrolment (10 patients)
SRP-9001-104: Pre-treatment ahead of gene therapy in Duchenne Muscular Dystrophy (DMD)								Clinical Phase 1b ongoing	Complete enrolment
Pre-treatment ahead of gene therapy in Limb-Girdle Muscular Dystrophy (LGMD)								Preclinical research ongoing	Preclinical research
Pre-treatment ahead of gene therapy in Pompe disease								Preclinical research ongoing	Preclinical research
Pre-treatment ahead of gene therapy in Crigler-Najjar syndrome								Clinical Phase 2 ongoing	Complete enrolment
<b>HNSA-5487</b>									
NICE-01: HNSA-5487 – Lead candidate from the NiceR program								Clinical Phase 1 completed	Alignment with regulatory authorities on clinical development pathway in neuro-autoimmune diseases

<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 03+04 studies (Jordan et al., New England Journal of Medicine)

<sup>3</sup> Investigator-initiated study by Dr. Adrian Schreiber and Dr. Philipp Enghard, at Charité Universitätsmedizin, Berlin, Germany



# Multiple, value-creating pipeline catalysts in 2025

## AUTOIMMUNE DISEASES

### IMLIFIDASE

**Guillain-Barré Syndrome (GBS)**

15-HMedIdeS-09 Ph 2  
*Data publication. Ph 3 preparation*

#### Anti-GBM

GOOD-IDES-02 Phase 3:  
*Data read out*

### HNSA-5487

**Myasthenia Gravis (MG)**

*Clinical development pathway alignment w/ reg agencies*

## GENE THERAPY

### IMLIFIDASE

**Gene Therapy**

#### Partnership Strategy



Sarepta Phase 1b trial in DMD:  
*Data read out*

Genethon Phase 2 trial in  
Crigler-Najjar Syndrome:  
*Complete enrolment*

## TRANSPLANTATION

### IMLIFIDASE

**Kidney Transplantation**

ConfIdeS US Phase 3:  
*Data read out*

*BLA submission to US FDA*

Post Authorization Efficacy  
Phase 3 Study (PAES):  
*Enrolment completion*

# AUTOIMMUNE DISEASES

Autoimmune diseases are conditions caused by the adaptive immune system mistakenly mounting an attack against the body's own cells and tissues

Acute indications can cause life-threatening organ failure and long-term damage.

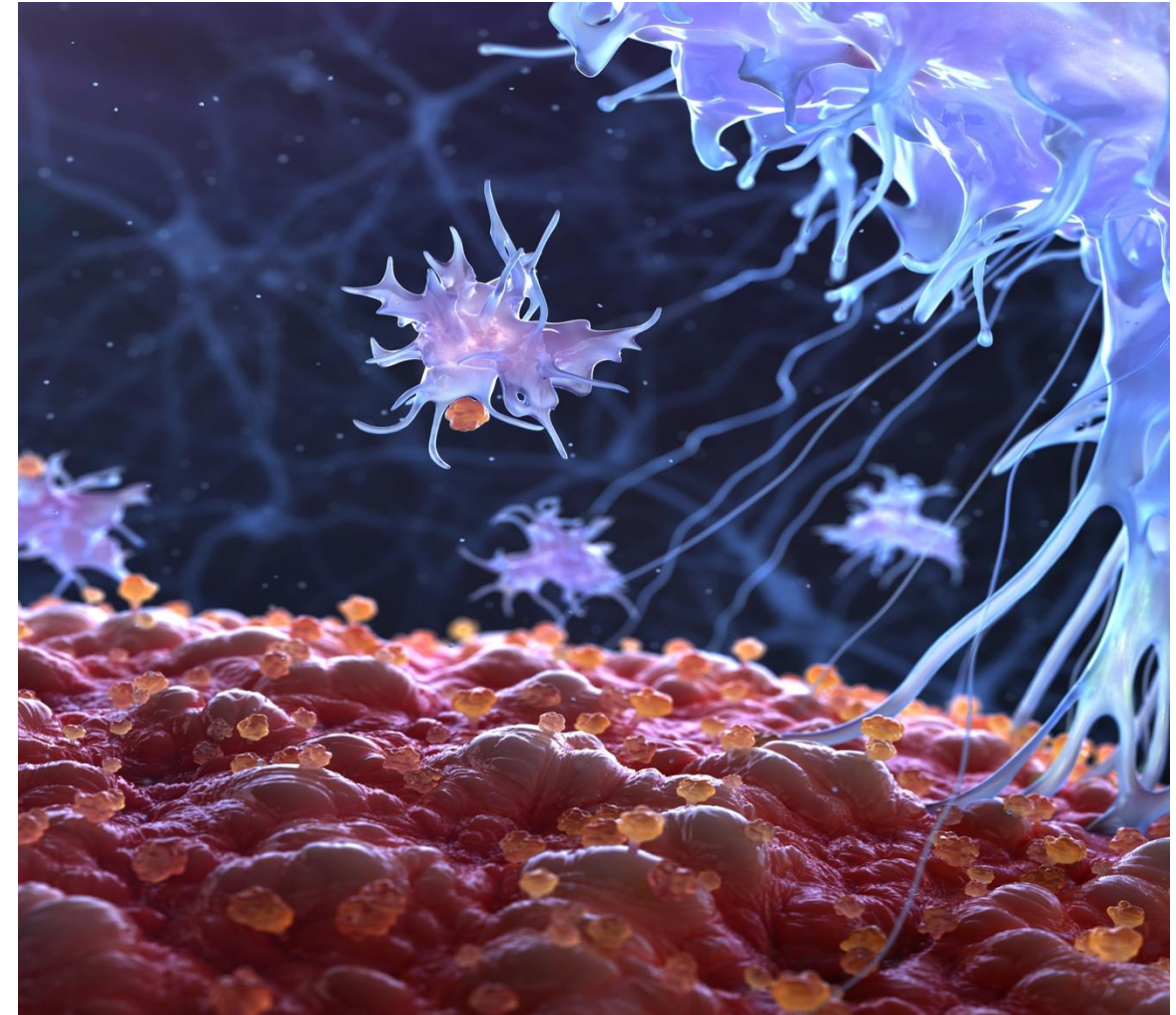
Chronic indications occur when damage develops over time. Can often include acute attack or exacerbations.

## IMLIFIDASE

- Positive Phase 2 results in Guillain-Barré Syndrome (GBS) and indirect treatment comparison to IGOS
- Ongoing Phase 3 trial in anti-GBM

## HNSA-5487

- Positive First in Human trial and 12-mth analysis; moving to studies in patients focused on neuro-autoimmunity



# Guillain-Barré Syndrome (GBS) is a rare, acute inflammatory disease driven by IgG

## Guillain-Barré Syndrome

a rare, acute, paralyzing, inflammatory disease of the peripheral nervous system caused by the immune system damaging nerve cells and structures.

### Symptoms

Rapid onset and progression of muscle weakness leading to severe paralysis of the arms and legs. Most GBS patients also have sensory disturbance (tingling or numbness or ataxia) and pain, and some patients have double vision or problems with swallowing.

### Treatment

No FDA approved treatments. IVIg/PLEX are considered standard of care. IVIg is approved in the EU.

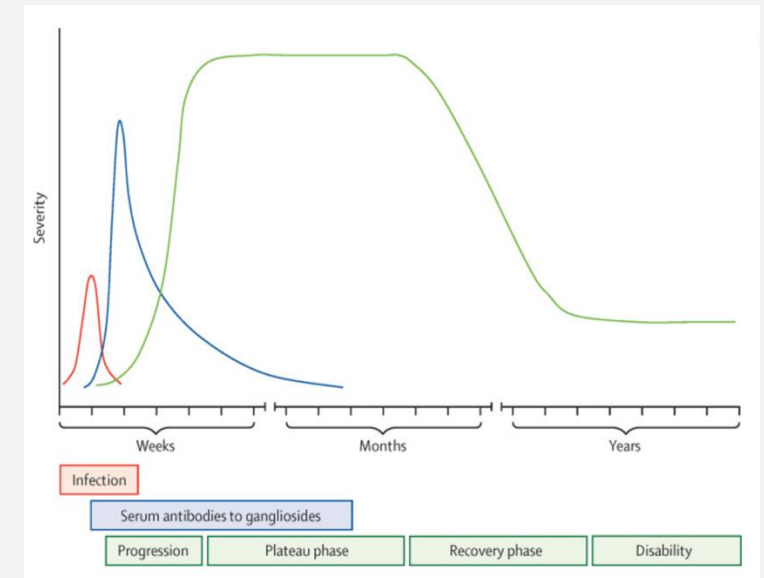
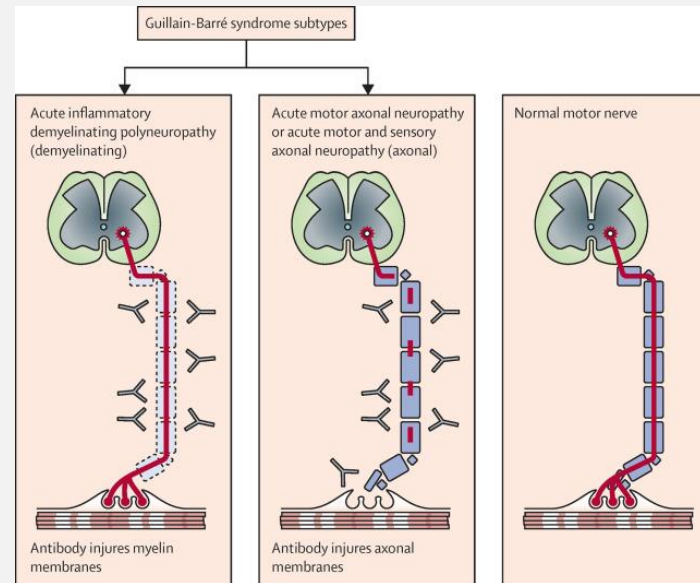
### Prevalence

Affects 1-2 in 100,000 people annually. Approximately 3,000 – 6,000 cases annually in the US.

### Unmet Need

~25% of patients require mechanical ventilation for days to months following the acute autoimmune attack and 20% are unable to walk after six months.

IgG is a key driver of inflammatory attacks on peripheral nerves and has been clinically linked to the severity and progression of the disease.



Willson et al, Lancet, 2016, Vol 388:10045:717-727



*“In the treatment of GBS and subsequent recovery process, early improvement and the ability to walk independently are important clinical milestones as they indicate a return to basic mobility and independence, and to an improved quality of life for patients. This analysis supports the potential role of imlifidase followed by standard of care IVIg as a potentially new treatment option in GBS. These are important results for patients and clinicians in the GBS community.”*

Professor Shahram Attarian,  
Head of Department of Neuromuscular Diseases and ALS, Hopitaux Universitaires de Marseille (APHM).

# 15-HMedIdeS-09 Phase 2 Study demonstrated the role imlifidase may play in halting the progression of GBS

## Study Overview

- Open-label, single arm, multi-center study across the UK, France, and the Netherlands. Patients with severe GBS were included (GBS DS  $\geq$  3)
- Evaluated safety, tolerability, and efficacy of single dose imlifidase (0.25 mg/kg) in combination with IVIg in 27 adult GBS patients



Rapid overall improvement in functional status including expedited muscle recovery



37% of patients able to walk independently at Week 1

67% of patients able to walk independently at Week 8



63% of patients able to run or had no functional disability (GBS DS < 1) at 6 months

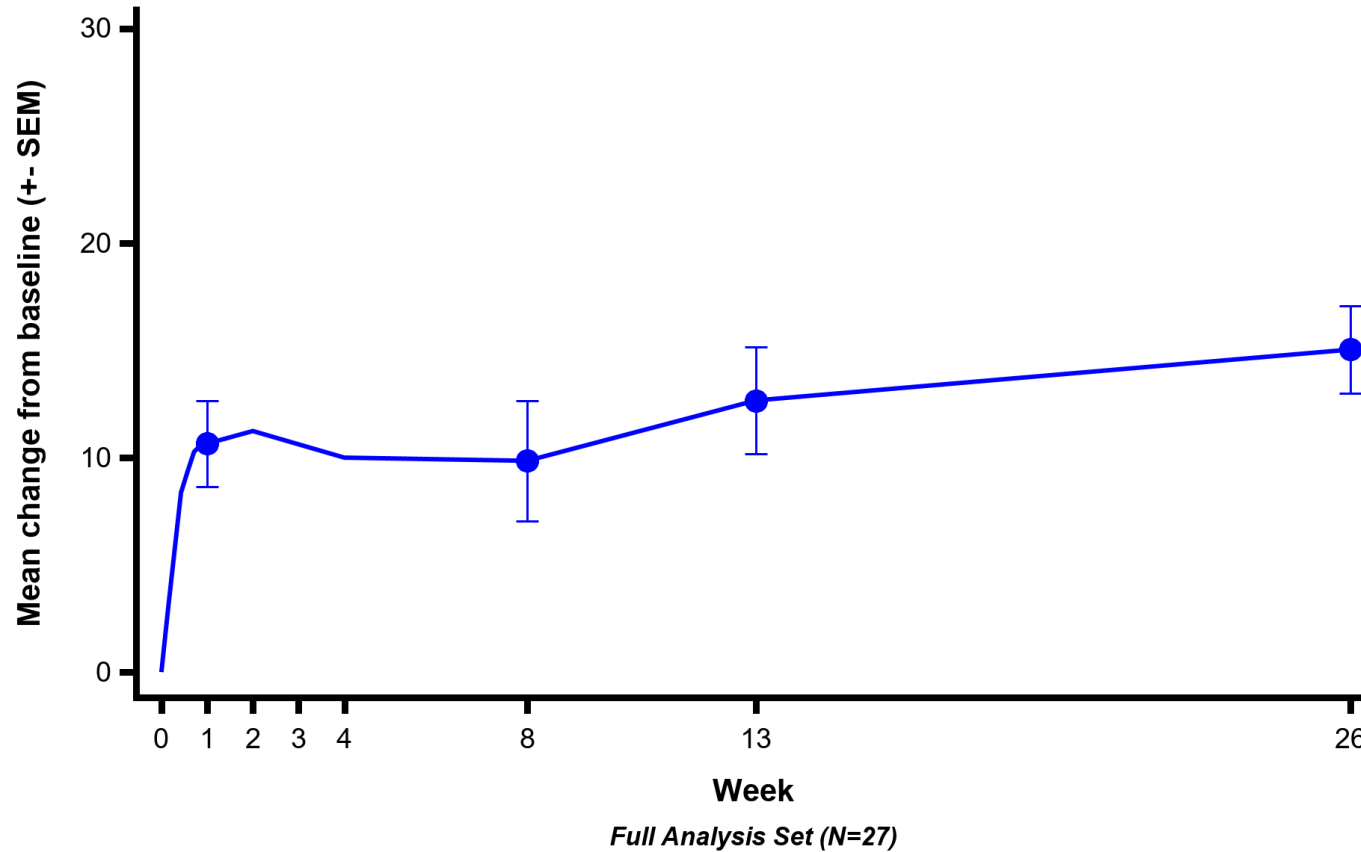


Administration of imlifidase was overall safe and well tolerated

**GBS disability score (DS) is defined as:** 0 = Healthy; 1 = Minor symptoms and capable of running; 2 = Able to walk independently 10 meters or more but unable to run; 3 = Able to walk more than 10 meters across an open space with help; 4 = Bedridden or chair bound; 5 = Needing mechanical ventilation; 6 = Dead

# Recovery of muscle strength seen as early as week 1 in patients treated with imlifidase in combination with IVIg

15-09: Change from baseline MRC sum score



## Key Takeaways

- Muscle weakness is a primary symptom of GBS and can lead to paralysis
- Regaining muscle strength is a key factor in recovery and returning to daily activities
- Mean 10.7 improvement in muscle strength at week 1

Ko KJ, Ha GC, Kang SJ. Effects of daily living occupational therapy and resistance exercise on the activities of daily living and muscular fitness in Guillain-Barré syndrome: a case study. J Phys Ther Sci. 2017 May;29(5):950-953. doi: 10.1589/jpts.29.950. Epub 2017 May 16. PMID: 28603379; PMCID: PMC5462706.

# Indirect treatment comparison demonstrates the robust, consistent benefit of imlifidase in combination with IVIg in GBS

## 15-HMedIdeS-09 data compared to IGOS

- Indirect comparison of 15-HMedIdeS-09 Phase 2 single arm trial data (n=27) to IGOS real-world IVIg comparator group with severe GBS patients (n=754)
- Unanchored matched-adjusted indirect comparison method

## Weighted Prognostic Variables

Time from weakness onset to treatment initiation and baseline values for:  
Age ● GBS DS ● Cranial Nerve Involvement ● MRC sum score ● Preceding Diarrhea

## Clinically Meaningful Endpoints

Identified four clinically meaningful endpoints related to disease recovery including GBS DS and MRC sum score

Median time to return to independently walking **6 weeks sooner** than IVIg comparator group ( $p=0.03$ )

Median time to improvement by at least one grade on GBS DS **3 weeks sooner** ( $p=0.002$ )

# Imlifidase in combination with IVIg delivered clinically meaningful benefit to patients with severe GBS

## Substantial early improvement in functional status in Phase 2 study

*well tolerated/consistent safety profile*

**Patients treated with imlifidase plus IVIg in Phase 2 study had rapid overall improvement in functional status**

<b>Rapid overall improvement in functional status</b>	37% returned to walking independently at 1 week
	Median time to independently walking (16 days)
	Median time to improve <b>by at least one</b> grade on GBS DS (6 days)
	MRC sum score of <b>10.7 points</b> at 1 week
<b>4 WEEKS</b>	33% regained the ability to run
<b>8 WEEKS</b>	67% able to walk independently
	41% regained the ability to run
	37% improved by at least 3 points in GBS DS
<b>6 MONTHS</b>	63% able to run or had no functional disability

## Significantly faster improvement in clinically meaningful measures vs standard of care IVIg

**In comparison to IGOS-IVIg group (n=754), patients experienced significantly faster improvement across clinically relevant measures**

Median time to return to independently walking **6 weeks sooner** than IVIg comparator group (p=0.03)

Median time to improvement by at least one grade on GBS DS **3 weeks sooner** (p=0.002)

**GBS disability score (DS) is defined as:** 0 = Healthy; 1 = Minor symptoms and capable of running; 2 = Able to walk independently 10 meters or more but unable to run; 3 = Able to walk more than 10 meters across an open space with help; 4 = Bedridden or chair bound; 5 = Needing mechanical ventilation; 6 = Dead  
**IGOS** – International GBS Outcome Study  
**OR** - odds ratio

# Anti-GBM is a rare, acute inflammatory disease driven by IgG

## Anti-Glomerular Basement Membrane Disease

an acute, rare, and very severe inflammatory disease in which IgG autoantibodies attack the glomerular basement membrane in the kidneys and, in some patients, the lungs.

### Symptoms

Early signs are often unspecific which can vary from malaise, weight loss, fatigue and fever. Kidney symptoms usually include blood and protein in the urine. Lung symptoms include coughing up blood, chest pain, cough, and shortness of breath.

### Prevalence

Affects around 1.6 people per million annually. Only one in three will have a preserved renal function after six months with current standard of care.<sup>5</sup>

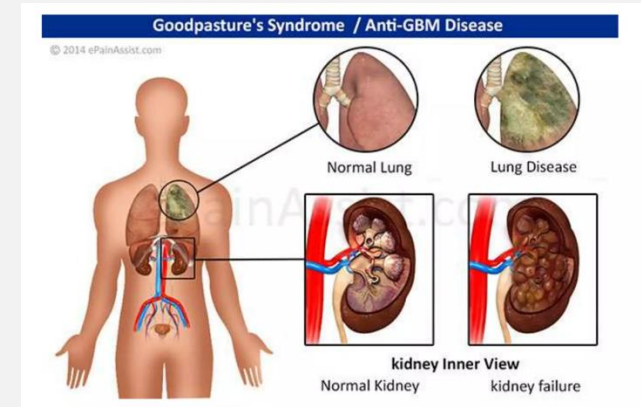
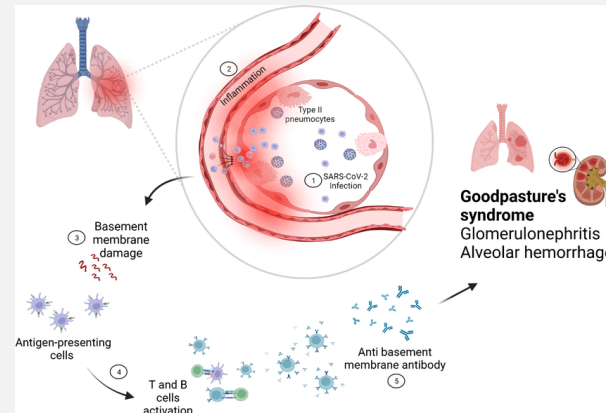
### Treatment

There are no approved drugs for anti-GBM. Standard of care consists of a combination of immunosuppressives, glucocorticoids, and plasma exchange.

### Unmet Need

Severe anti-GBM can be life-threatening resulting in kidney failure and bleeding in the lungs. The acute autoimmune attacks can become fatal in up to one in eight patients in the first year, while most patients lose their kidney function and end up on dialysis.

## IgG plays a central role in anti-GBM binding to the GBM and causing damage to the kidneys



*“Given the severity of anti-GBM’s acute phase, the autoimmune reaction needs to be counteracted and stopped as quickly as possible if we want to limit the damage to the organs. Only if treatment is instituted early, there is a chance of salvaging the organ’s function.”*

Mårten Segelmark,  
Professor of Nephrology at Lund University.



UNCKidney Center. Anti-GBM Disease. Available at: <https://unckidneycenter.org/kidneyhealthlibrary/glomerular-disease/anti-gbm-disease/>.  
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 Sánchez-Agasta M, et al. (2022) Anti-glomerular Basement Membrane Glomerulonephritis: A Study in Real Life. Front. Med. 9:889185. doi: 10.3389/fmed.2022.889185  
 Uhlir et al. JASN (2022)  
 McAdoo et al. Kidney Int 99: 693-702, 2017



# Topline data from GOOD-IDES-02 Phase 3 anti-GBM trial expected in 2H 2025

## Results from Phase 2 Study Results Published in JASN (2022)

10 out of 15 patients were dialysis independent after six months vs. the historical cohort, where only 18% had functioning kidney



**Imlifidase granted  
orphan drug  
designation by US  
FDA and EMA**

## GOOD-IDES-03 Open Label Phase 3 Trial

- Fully enrolled 50 patients from 30+ centers in US, UK and EU
- Primary Endpoints: eGFR at 6 months and need for dialysis
- Secondary Endpoints: anti-GBM antibody levels, pulmonary symptoms, safety, PK/PD and health related quality of life
- 25 patients were randomized to receive imlifidase in combination with SOC and 25 patients received only SOC

SOC: Standard of Care consisting of a combination of immunosuppressives, glucocorticoids, and plasma exchange,

Segelmark et al. JASN (2022)

Journal of the American Society of Nephrology <https://pubmed.ncbi.nlm.nih.gov/35260419/>

McAdoo et al.: Patients double-seropositive for ANCA and anti-GBM antibodies have varied renal survival, frequency of relapse, and outcomes compared to single-seropositive patients. Kidney Int 92: 693-702, 2017

# HNSA-5487 could address unmet need in neuro-autoimmune conditions including Myasthenia Gravis (MG)

## Myasthenia Gravis (MG)

A rare, chronic autoimmune neuromuscular disorder that is characterized by fluctuating weakness of the voluntary muscle groups.

### Symptoms

Weakness in eye muscles including double or blurred vision and drooping eyelid. Can develop widespread weakness in face, arms, or legs.

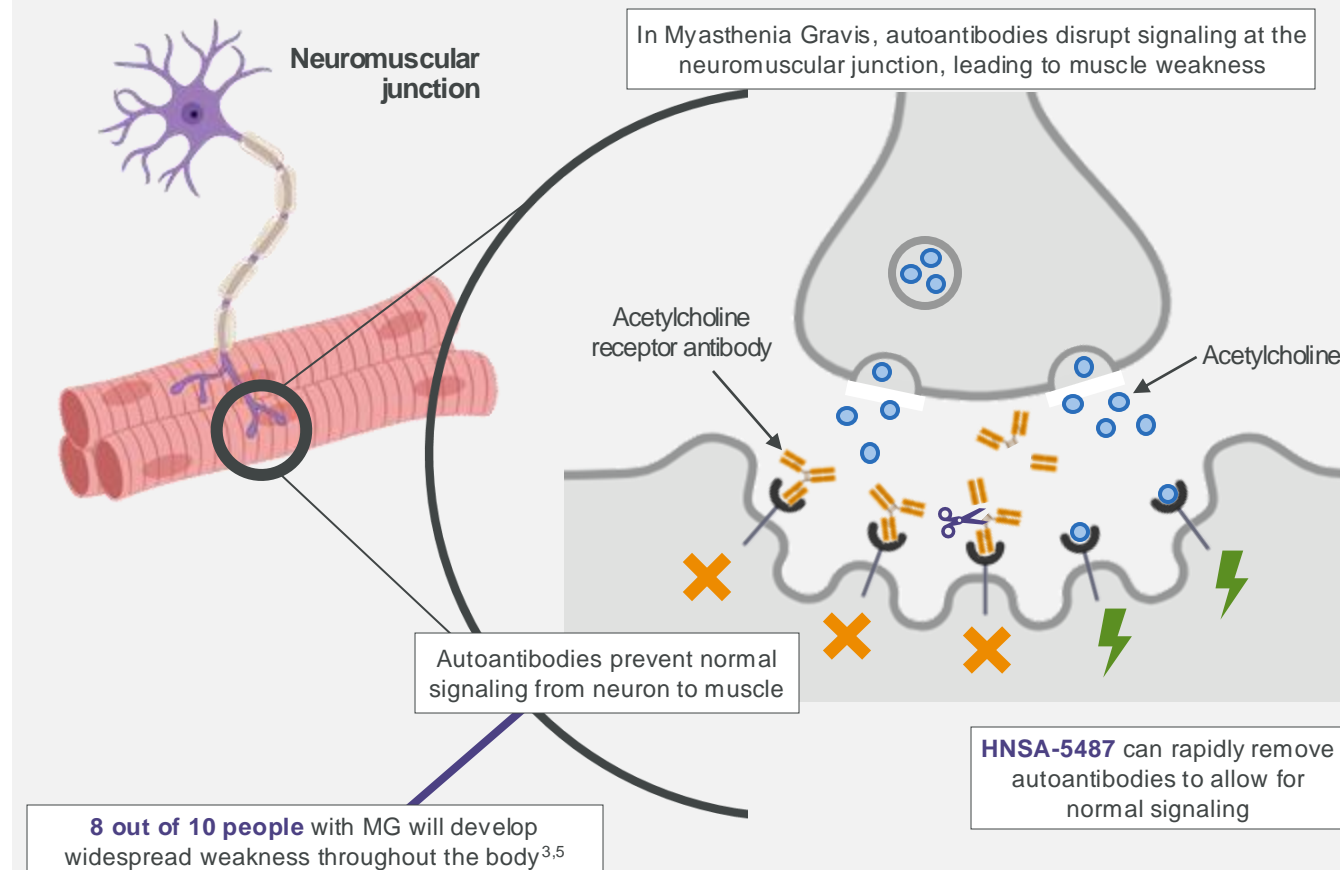
### Prevalence

Globally, approximately 150 to 200 out of every million people have MG. In the US 37 out of every 100,000 people have MG.

### Treatment

Current immunomodulatory treatments do not achieve sufficient improvement or resolution of symptoms and more targeted therapies are needed. **No approved treatments for severe exacerbations and myasthenic crisis.**

## Most people with MG have IgG antibodies against the acetylcholine receptor



Created with BioRender.com

# NICE-01 first in human trial data demonstrated clear redosing potential for HNSA-5487 with robust IgG reduction

## Study Overview

- Double blind, randomized, placebo-controlled trial in 36 healthy volunteers received a single ascending doses of HNSA-5487 administered as a single intravenous (IV) infusion.
- Assessed safety, tolerability, PK and PD, and immunogenicity



Rapid and robust IgG reduction by more than 95% within a few hours



Redosing potential with significantly reduced ADA response\*



Efficient IgG reduction in samples at 6 and 12 months post initial dose

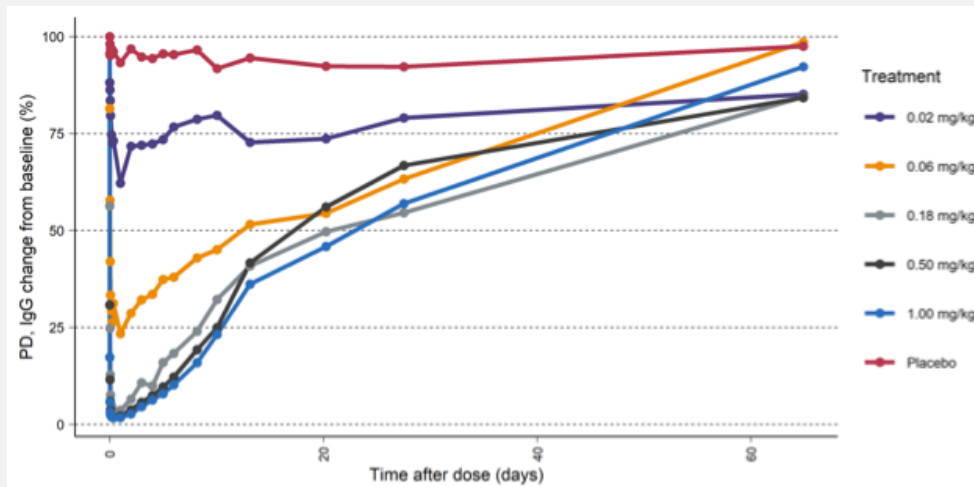


As efficacious as imlifidase in reducing total IgG levels

\*as compared to imlifidase  
ADA: anti-drug antibody

# HNSA-5487 demonstrated rapid, robust reduction of IgG by 95% after a single dose

## As efficacious as imlifidase in IgG reduction

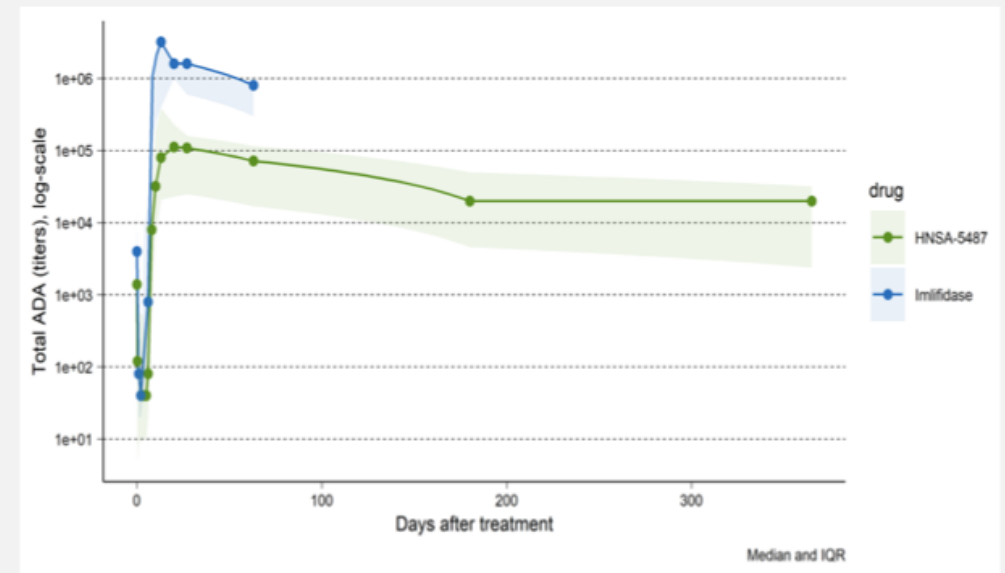


	0.02 mg/kg n=4	0.06 mg/kg n=4	0.18 mg/kg n=6	0.50 mg/kg n=6	1.00 mg/kg n=6	imlifidase** 0.25 mg/kg n=23
Responders*	0%	25%	83%	100%	100%	88%

\*A subject with IgG level <5% of baseline 24 hours post dosing  
 \*\* Data from 18-HMedides-15 and 21-HMedides-29

## Effective redosing at 6 and 12-months

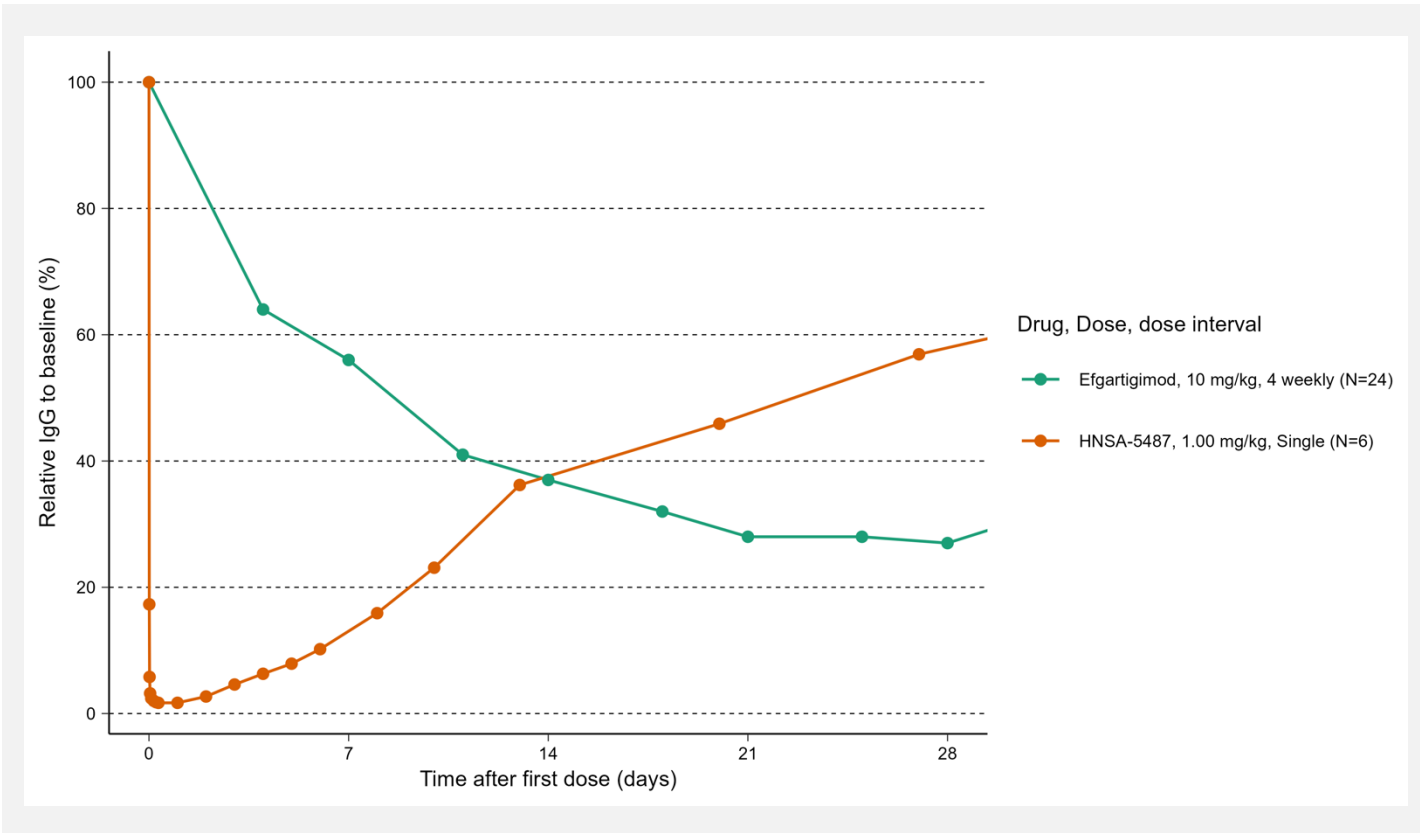
Data plotted using two separate Phase 1 trials in healthy human subjects  
 No head-to-head trial has been conducted between HNSA-5487 and imlifidase



HNSA-5487 data from NICE-01, healthy subjects (n=26)  
 imlifidase data from 18-HMedides-15, healthy subjects (n=11)

# HNSA-5487 is uniquely positioned to treat acute and chronic conditions due to its rapid IgG reduction

## HNSA-5487 provides unmatched speed in reducing IgG



## IgG cleaving enzymes cleave antibodies across all domains

IgG lowering modalities	Intravascular IgG	Extravascular IgG	Cell bound IgG
Imlifidase	✓	✓	✓
HNSA-5487	✓	✓	✓
FcRn inhibitor	✓	-	✗
PLEX	✓	✗	✗

Idefix Summary of Product Characteristics. [https://www.ema.europa.eu/en/documents/product-information/idefix-epar-product-information\\_en.pdf](https://www.ema.europa.eu/en/documents/product-information/idefix-epar-product-information_en.pdf). Accessed June 2024.

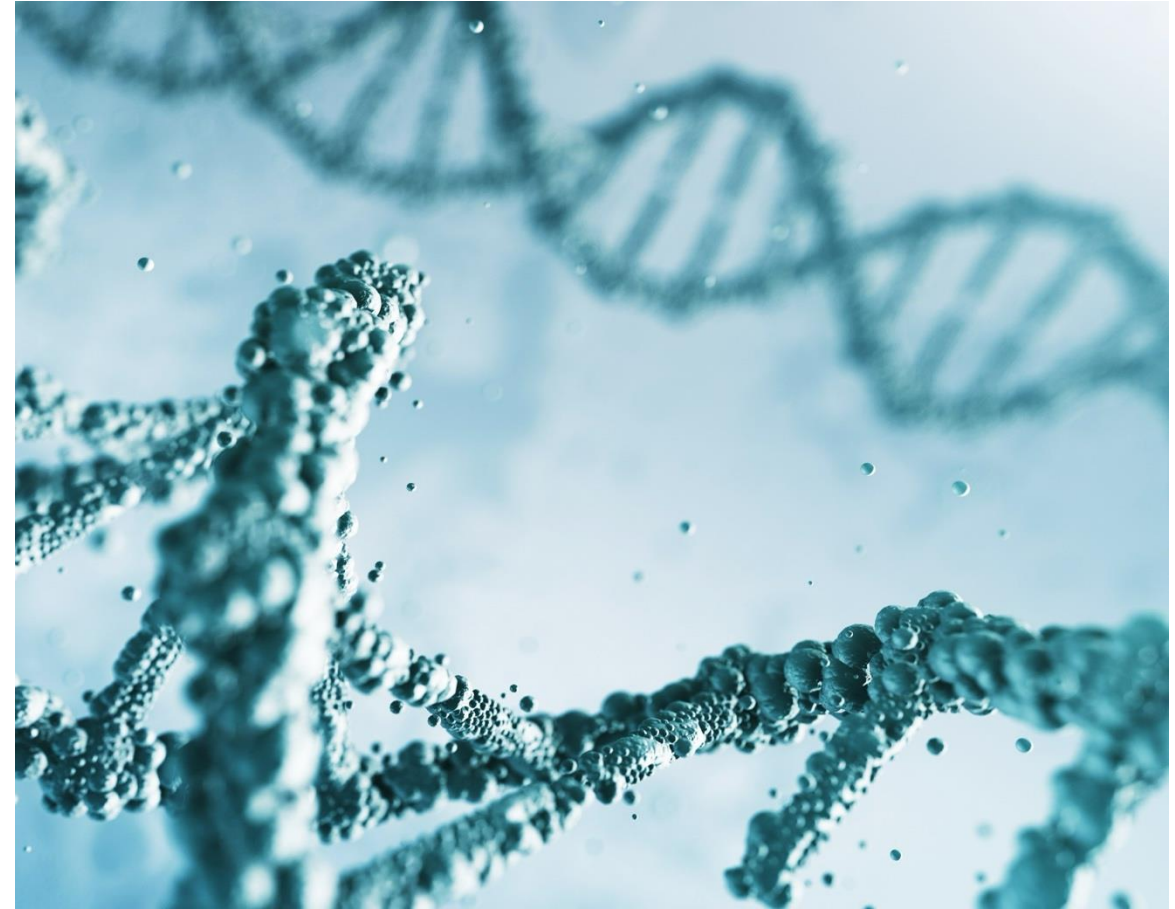
Gil I. Wolfe, E. Sally Ward, Hans de Haard, Peter Ulrichs, Tahseen Mozaffar, Mamatha Pasnoor, Gestur Vidarsson. gG regulation through FcRn blocking: A novel mechanism for the treatment of myasthenia gravis, Journal of the Neurological Sciences, Volume 430, 2021, 118074, ISSN 0022-510X, <https://doi.org/10.1016/j.jns.2021.118074>. (<https://www.sciencedirect.com/science/article/pii/S0022510X2100770X>).

# GENE THERAPY

Over 7,000 monogenic diseases and up to 1 in 3 people can't benefit from gene therapy due to anti-AAV antibodies

## IMLIFIDASE

- Three partnerships in place with leading gene therapy companies;
- Phase 1 data read out with Sarepta expected in 2025
- Phase 2 trial with Genethon in Crigler Najjar initiated in 2024



Boycott K.M, et al. Rare-disease genetics in the era of next-generation sequencing: discovery to translation. *Nat Rev Genet.* 2013 Oct;14(10):681-91. doi: 10.1038/nrg3555. Epub 2013 Sep 3. PMID: 23999272.

Boutin S, et al. Prevalence of serum IgG and neutralizing factors against adeno-associated virus (AAV) types 1, 2, 5, 6, 8, and 9 in the healthy population: implications for gene therapy using AAV vectors. *Hum Gene Ther.* 2010 Jun;21(6):704-12. doi: 10.1089/hum.2009.182. PMID: 20095819.

Calcedo R, Wilson JM. Humoral Immune Response to AAV. *Front Immunol.* 2013 Oct 18;4:341. doi: 10.3389/fimmu.2013.00341. PMID: 24151496; PMCID: PMC3799231

Veron P, Leborgne C, Monteilhet V, Boutin S, Martin S, Moulrier P, Masurier C. Humoral and cellular capsid-specific immune responses to adeno-associated virus type 1 in randomized healthy donors. *J Immunol.* 2012 Jun 15;188(12):6418-24. doi: 10.4049/jimmunol.1200620. Epub 2012 May 16. PMID: 22593612.

Kruzik A, et al. Prevalence of Anti-Adeno-Associated Virus Immune Responses in International Cohorts of Healthy Donors. *Mol Ther Methods Clin Dev.* 2019 Jun 7;14:126-133. doi: 10.1016/j.omtm.2019.05.014. PMID: 31338384; PMCID: PMC6629972.

# Global exclusive agreements with leading gene therapy companies in select indications



## CAPABILITIES & RESOURCES

- World leader in gene therapy in muscular dystrophies
- Pre-clinical and clinical plan
- Regulatory & Promotion
- FDA approval in 2023

## INDICATION EXCLUSIVITY

**Duchenne Muscular Dystrophy (DMD)** - 1/3,500 to 5,000 male births worldwide  
**Limb-Girdle Muscular Dystrophy** - global prevalence of ~1.6 per 100K individual

## TERMS

\$10M upfront w/ milestones totaling  
~\$400M



## CAPABILITIES & RESOURCES

- A pioneer in the discovery and development of gene therapies
- Conducts pre-clinical and clinical trials (Phase 1/2)

## INDICATION EXCLUSIVITY

**Crigler-Najjar syndrome** - approximate incidence is 0.6-1 case per one million people or 600 patients in Europe and the U.S

## TERMS

Undisclosed



## CAPABILITIES & RESOURCES

- Early innovator in gene therapy
- Conducts pre-clinical and clinical trials (Phase 1/2)

## INDICATION EXCLUSIVITY

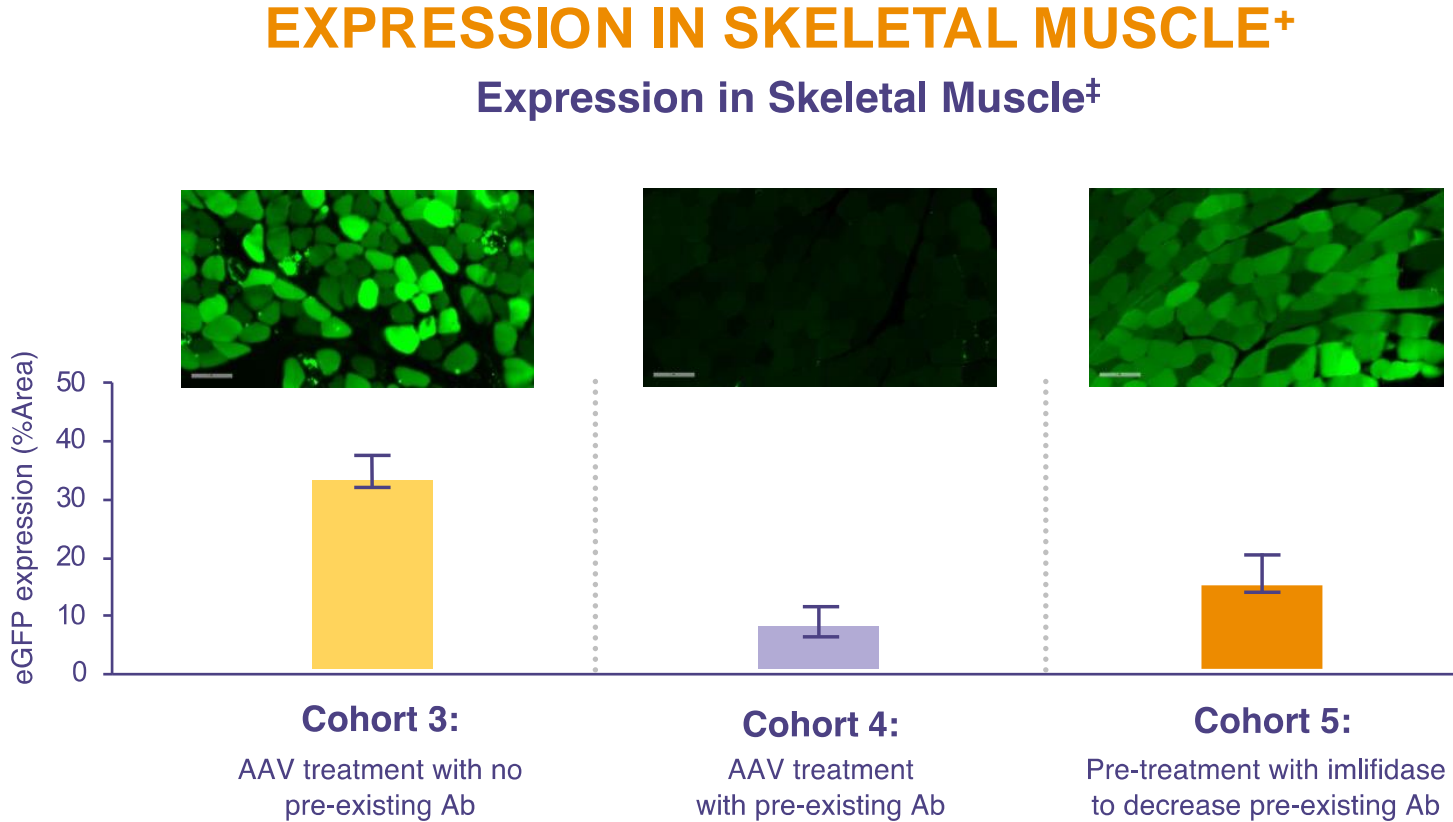
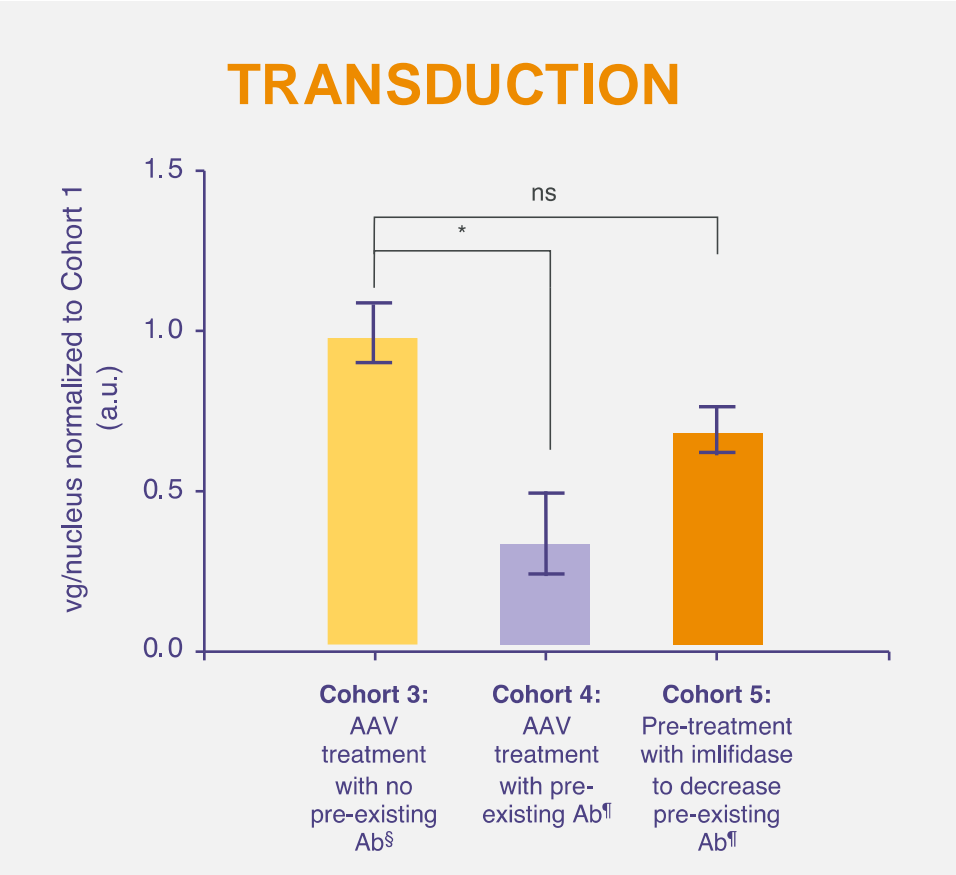
**Pompe Disease** - ~ 5,000 to 10,000 patients in the US and EU.  
In addition, 1 in 40,000 births (200 cases) are diagnosed yearly.

## TERMS

\$5M upfront option collaboration

Emery AE. Population frequencies of inherited neuromuscular diseases--a world survey. *Neuromuscul Disord.* 1991;1(1):19-29. doi: 10.1016/0960-8966(91)90039-u. PMID: 1822774.  
Stark AE. Determinants of the incidence of Duchenne muscular dystrophy. *Ann Transl Med.* 2015 Nov;3(19):287. doi: 10.3978/j.issn.2305-5839.2015.10.45. PMID: 26697447; PMCID: PMC4671860.  
<https://www.genethon.com/our-pipeline/crigler-najjar-syndrome/>. Last accessed: 29 November 2024  
Taglia A, Picillo E, D'Ambrosio P, Cecio MR, Viggiano E, Politano L. Genetic counseling in Pompe disease. *Acta Myol.* 2011 Dec;30(3):179-81. PMID: 22616199; PMCID: PMC3298105.  
1. Understanding Neuromuscular Disease Care. IQVIA Institute. Parsippany, NJ. (2018).  
2. Narayanaswami, P. *et al.* Evidence-based guideline summary?: Diagnosis and treatment of limb-girdle and distal dystrophies. *Neurology* (2014).  
3. Wicklund, M. P. Limb-Girdle Muscular Dystrophies. in *Encyclopedia of the Neurological Sciences* (2014). doi:10.1016/B978-0-12-385157-4.00623-0

# Imlifidase pre-treatment decreases pre-existing antibodies and enhances transduction and transgene expression in animal models



Data from animal models

\*P<0.05. †Data are represented as mean ± SEM and analyzed by one-way ANOVA followed by post-hoc analysis with Dunnett's multiple comparison test. ‡Data are represented as the mean ± SEM for the percent area for all of the muscle tissues analyzed at terminal necropsy. §AAVrh74 titer ≤1:400. ¶AAVrh74 titer 1:800–1:1600.

AAV, adeno-associated virus; AAVrh74, adeno-associated virus rhesus isolate serotype 74; Ab, antibody; a.u., arbitrary units; eGFP, enhanced green fluorescent protein; NHP, non-human primate; ns, not significant; vg, viral genome.



# TRANSPLANTATION

More than 170K on the kidney transplant wait list;  
10-15% highly sensitized and face significantly  
longer wait times

## IMLIFIDASE

- Conditionally approved (2020) and commercialized in EU as desensitization for kidney transplantation
- Positive 5-year survival data shows durable graft and patient survival
- Pivotal Phase 3 US ConfideS trial completed enrolment in 2024; data readout in 2H 2025



Burns T, Fernandez R, Stephens M. The experiences of adults who are on dialysis and waiting for a renal transplant from a deceased donor: a systematic review. *JBIC Database System Rev Implement Rep.* 2015 Mar 12;13(2):169-211. doi: 10.11124/jbisrii-2015-1973. PMID: 26447040. Organ Procurement and Transplantation Network (OPTN) and Scientific Registry of Transplant Recipients (SRTR). OPTN/SRTR 2022 Annual Data Report. U.S. Department of Health and Human Services, Health Resources and Services Administration; 2024. Accessed February 2025.

# Kidney transplantation is viewed as optimal treatment for end stage renal disease (ESRD)

## End Stage Renal Disease (ESRD)

A serious condition that requires renal replacement therapy – either dialysis or kidney transplantation. Transplantation is viewed as optimal treatment for ESRD.

### Current Situation

Highly sensitized kidney transplant patients face extended transplant waiting list time. Dialysis patients may need up to 4 hours of treatment several times a week.

### Prevalence

ESRD impacts 2.5M people worldwide. 170K ppl are waiting for a transplant. 10-15% are highly sensitized and unlikely to be transplanted.

### Desensitization Strategies

Desensitization strategies have been predicated on compatibility and current approaches have limitations (e.g., plasmapheresis, immunoglobulins). Inability to match or effectively desensitize patients remains a barrier for transplantation in highly sensitized patients.

### Causes of Sensitization



Pregnancy

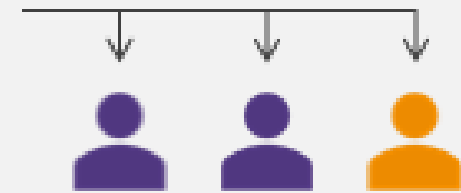


Blood transfusion



Previous transplantations

Transplantation of highly sensitized patients has increased since the introduction of the US Kidney Allocation System however, thousands of patients are still unlikely to find a match



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

Degree of sensitization	cPRA%	Est. no. of organs to find match <sup>2</sup>	Estimated number of patients on waitlist (U.S.) <sup>3</sup>
Less or moderate	0-20	1-2	~66,000
	20-80	2-14	~16,000
Highly sensitized	80-99	14-300	~5,000
	98-99.9	300-3,000	~3,500
	>99.9	3,000-300,000	~2,500

<sup>1</sup> OPTN, [https://optn.transplants.hrsa.gov/media/1200/optn\\_policies.pdf](https://optn.transplants.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

Jager KJ, et al. A single number for advocacy and communication—worldwide more than 850 million individuals have kidney diseases. *Nephrol Dial Transplant*. 2019;34(11):1803-1805

Bibbo B, et al. Global, regional, and national burden of chronic kidney disease, 1990–2017: a systematic analysis for the Global Burden of Disease Study 2017. *Lancet*. 2020;395(10225):709-733.

Burns T, Fernandez R, Stephens M. The experiences of adults who are on dialysis and waiting for a renal transplant from a deceased donor: a systematic review. *JBI Database System Rev Implement Rep*. 2015 Mar 12;13(2):169-211. doi: 10.1111/24747040.

51. Organ Procurement and Transplantation Network (OPTN) and Scientific Registry of Transplant Recipients (SRTR). OPTN/SRTR 2022 Annual Data Report. U.S. Department of Health and Human Services, Health Resources and Services Administration; 2024. Accessed June 4, 2024.

Abecasis M, Bartlett ST, Collins AJ, Davis CL, Delmonico FL, Friedewald JJ, Hays R, Howard A, Jones E, Leichman AB, Meisler RM, Metzger RA, Pineda F, Schweitzer EJ, Velez RL, Gaston RS. Kidney transplantation as primary therapy for end-stage renal disease: a National Kidney Foundation/Kidney Disease Outcomes Quality Initiative (NKF/KDOQI) conference. *Clin J Am Soc Nephrol*. 2008 Mar;3(2):47-80. doi: 10.2215/CJN.05021107. Epub 2008 Feb 6. PMID: 18256371; PMCID: PMC2390948.

# Solid commercial opportunity in kidney transplantation desensitization

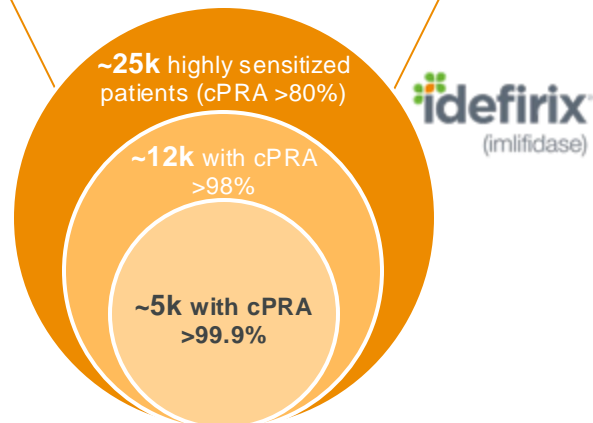
## Significant Unmet Medical Need

Inability to match or effectively desensitize patients remains a barrier for transplantation in highly sensitized patients

~170k patients are waiting for a new kidney in Europe and the U.S.

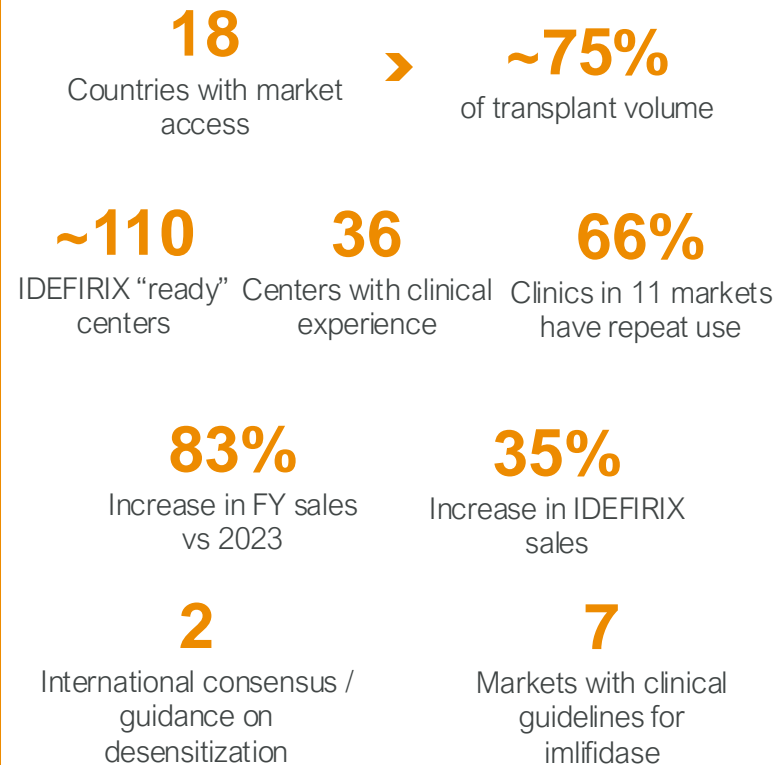
Calculated Panel Reactive Antibodies (cPRA) is a measure for HLA-sensitization

10-15% of patients are highly sensitized (cPRA > 80%)



## IDEFIRIX Launch in Europe

European launch has reached inflection point with increasing adoption across major markets



## ConfIdes Phase 3 Nearing Completion

Pivotal Phase 3 trial

**May 2024**  
fully randomized

**2H 2025**  
Data readout and BLA filing

**24**  
centers involved in trial

**>20%**  
of transplant volume

**Broad clinical experience creates foundation for fast commercial uptake**

# US Phase 3 pivotal ConfIdeS trial data expected in 2H 2025

## STUDY OVERVIEW

Open-label, controlled, randomized trial evaluating 12-month kidney function in highly sensitized kidney transplant patients with positive crossmatch against a deceased donor, comparing desensitization using imlifidase with standard of care.

### PRESCREENING

- Organ offer received via virtual crossmatch
- Key inclusion criteria: positive crossmatch against deceased donor

### 12-MONTH POST TRANSPLANT FOLLOW UP

All patients will receive:

- Induction therapy
- Maintenance immunosuppression

At 12-months:

- All patients will undergo a kidney biopsy

### PRIMARY ENDPOINT

- Estimated glomerular filtration rate (eGFR)

### SECONDARY ENDPOINT

- Graft and patient survival parameters
- Antibody mediated rejection parameters
- Anti-drug antibody measures
- Imlifidase PK

### CURRENT STATUS

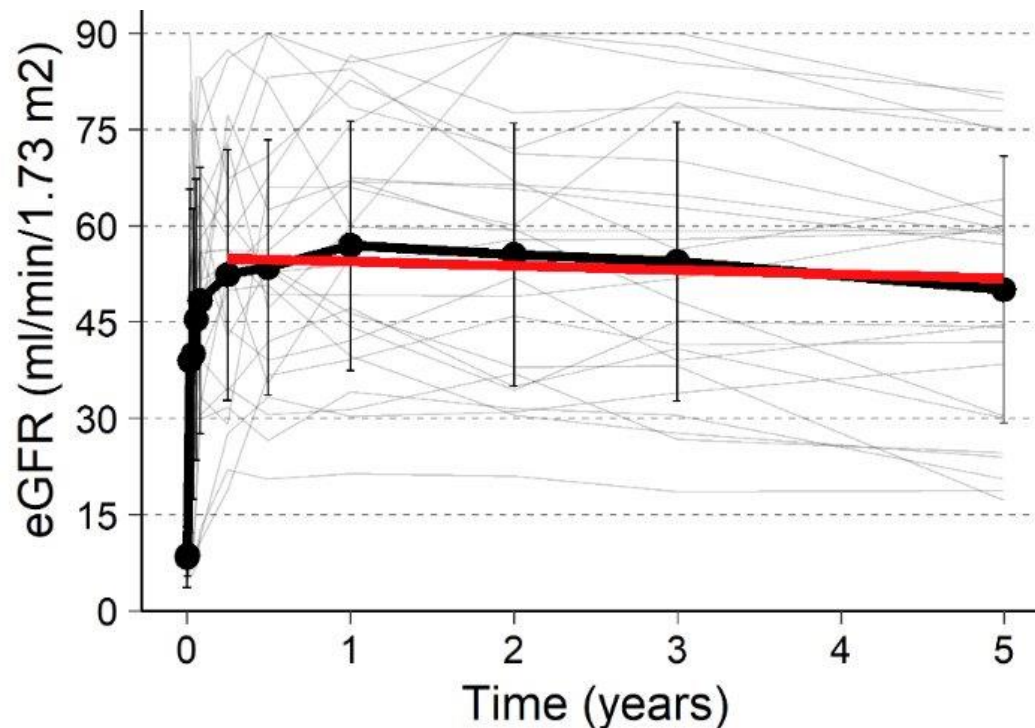
- Randomization completed (May 2024)
- Topline data expected 2H 2025

# Long-term follow-up study showed durable graft and patient survival

## Study Overview

Extended pooled analysis from the 17-HMedIdeS-14 study

A long-term follow-up study of patients who have received a kidney transplant following desensitization with imlifidase.



## KEY TAKEAWAYS

- 82% five-year graft survival
- 90% patient survival
- 50 ml/min/m<sup>2</sup> eGFR
- Presented at AST (June 2024)
- ESOT: recommended imlifidase as a desensitization strategy for kidney transplant
- Kidney International Reports/AST: Real World Evidence Study (June 2024)

EGFR estimated glomerular filtration rate is a measure of how well kidneys are functioning

# Poised to deliver therapies that will change the immune-mediated treatment landscape

**Proprietary IgG-  
cleaving Platform**

**3 Therapeutic  
Areas, Broad  
Application**

**Highly Clinically  
Validated**

**Well Capitalized  
into 2026,  
Experienced Team**

# FINANCING AND LEADERSHIP

## Leadership team



**Søren Tulstrup**

President & CEO



**Evan Ballantyne**

SVP & CFO



**Hitto Kaufmann, PhD**

SVP and Chief R&D Officer



**Anne Säfström**

SVP & CHRO



## Board of Directors

Peter Nicklin Chairman

Anders Gersel Pedersen Director

Mats Blom Director

Hilary Malone Director

Eva Nilsagård Director

Jonas Wikström Director

Florian Reinaud Director

Leadership team with significant experience in immune modulating therapies and global healthcare

NASDAQ STOCKHOLM TICKER:  
HNSA

INSTITUTIONAL HOLDINGS  
> 45%

CASH (Q4 '24)  
\$40 MILLION US

EXPECTED CASH RUNWAY INTO  
2026

SHARES OUTSTANDING – 67.8  
MILLION



**Thank you**