

Elisabeth Sonesson

Global Franchise Lead Autoimmunity

Life Sciencedagen 2024

6 Mars 2024, Göteborg

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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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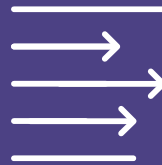
Hansa Biopharma today

A successful track record and a promising future...



A validated technology

- ✓ Commercial stage biotech company
- ✓ Approval in kidney transplantation (EU)
- ✓ Market Access in 14 European markets
- ✓ PoC in autoimmune diseases
- ✓ Three partnerships in gene therapy



Broad clinical pipeline

- Imlifidase being investigated in seven ongoing clinical programs in transplantation and autoimmune disease
- Ongoing clinical study in gene therapy
- HNSA-5487: Encouraging data from phase I first-in-human trial



Skilled and experienced team

- A high-performance organization with 20 years on average in life science
- Purpose driven culture
- Headquartered in Lund, Sweden (168 employees Dec'23)
- Operations in both EU and the US



Financial position

- Hansa is financed into 2025
- Market cap (SEK): ~1,7bn (March 2024)
- Listed on Nasdaq Stockholm
- 20,000 shareholders
- Foreign ownership make up ~43%

Imlifidase

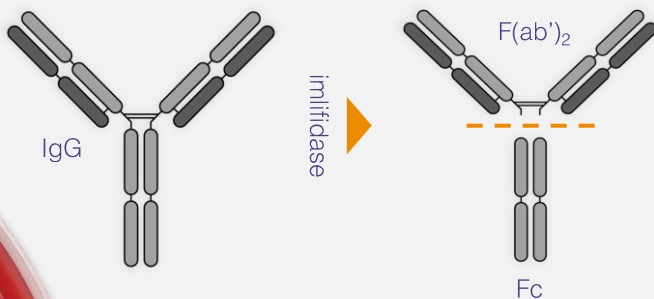
a novel approach to eliminate pathogenic IgG

Origins from a bacteria *Streptococcus pyogenes*

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

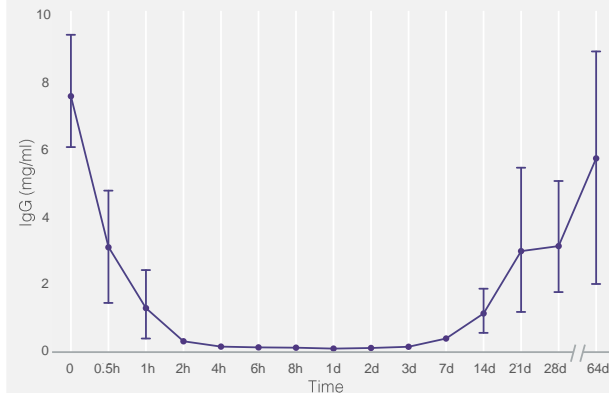
A unique IgG antibody-cleaving enzyme

- 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



Inactivates IgG in 2-6 hours

- Rapid onset of action that inactivates IgG below detectable level in 2-6 hours
- IgG antibody-free window for approximately one week



Our unique antibody cleaving enzyme technology may have relevance across a range of indications

Targeting rare IgG mediated diseases



Auto-immune diseases

Anti-GBM disease paves the way for development in other autoimmune diseases

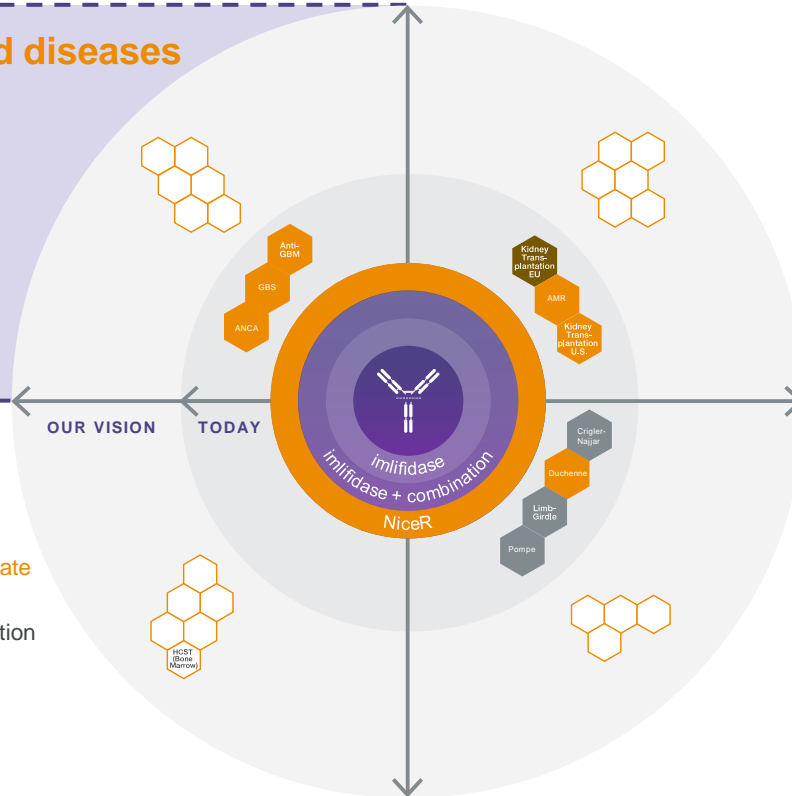
- Rapidly progressive glomerulonephritis
- Neurological disorders
- Skin and blood disorders



New therapies

IgG-cleaving enzymes to enable or even potentiate cancer therapy

- Allogenic stem cell (bone marrow) transplantation (HSCT)



Transplantation

Shaping a new standard for desensitization will help enable new indications in transplantations

- Antibody mediated rejection (AMR) in kidney transplantation
- Other transplantation types



Gene therapy

Exploring opportunities in gene therapy

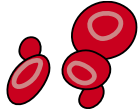
- Encouraging preclinical data published in Nature
- Validation through collaborations with Sarepta, AskBio, Genethon
- Wide indication landscape beyond

Autoimmune attacks

A result of when the body's immune system by mistake damages its own tissue

Blood

Autoimmune hemolytic anemia,
Immune thrombocytopenia



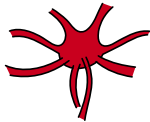
GI tract

Crohn's disease



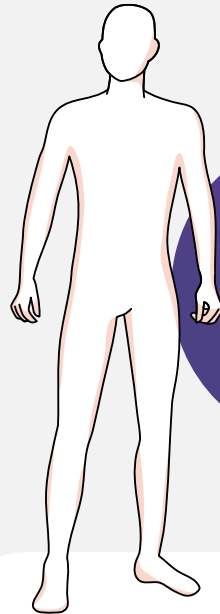
Nerves

Guillain-Barré syndrome,
Myasthenia gravis



Lung

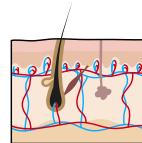
Wegner's granulomatosis



Over
100 different
types of
Autoimmune
disorders

Skin

Psoriasis, Pemphigus



Brain

Multiple sclerosis,
Neuromyelitis optica



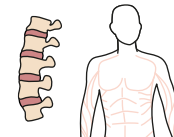
Thyroid

Hashimoto's disease,
Graves' disease



Kidney

Anti-GBM disease



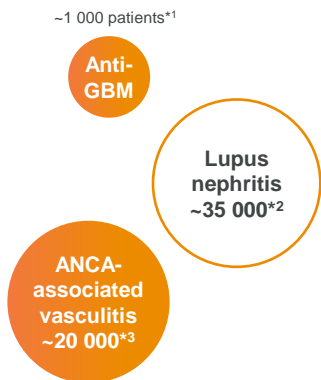
Bone and muscle

Rheumatoid arthritis,
Dermatomyositis+ 32

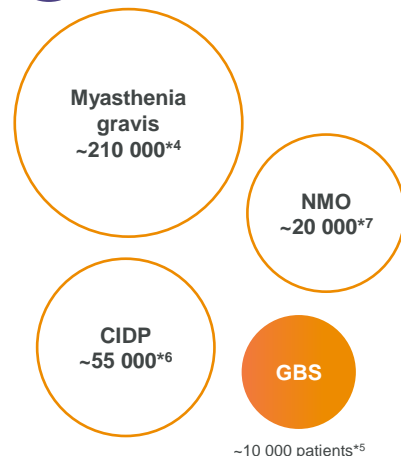
Hansa's antibody cleaving enzyme technology

may have relevance in several autoimmune diseases where IgG plays an important role in the pathogenesis

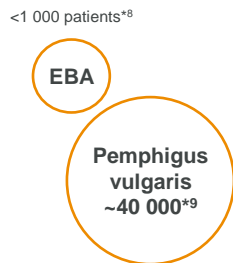
Rapidly progressive glomerulonephritis



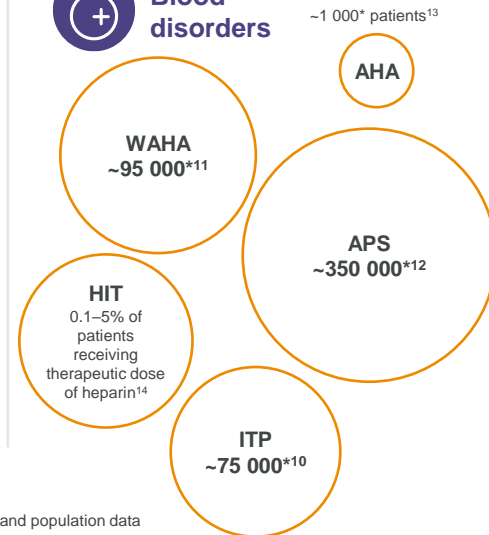
Neurological disorders



Skin disorders



Blood disorders



■ Clinical programs
 □ Potential autoimmune indications (currently not pursued)

*Total disease populations in EU & US, based on prevalence and population data

CIDP: Chronic inflammatory demyelinating polyradiculoneuropathy
NMO: Neuromyelitis optica
EBA: Epidermolysis bullosa acquisita
ITP: Immune thrombocytopenia
WAHA: Warm antibody hemolytic anemia
APS: Antiphospholipid syndrome
AHA: acquired hemophilia A
HIT: Heparin-induced thrombocytopenia

¹DeVriese, B.W. and Hurley, J.A. *Goodpasture Syndrome*. StatPearls Publishing, Jan 2021. <https://www.ncbi.nlm.nih.gov/books/NBK459291/> [accessed 2021-03-29]
²Patel, M et al. *The Prevalence and Incidence of Biopsy-Proven Lupus Nephritis in the UK*. Arthritis & Rheumatism, 2006.
³Berti A, Cornec D, Crowson CS, Specks U, Matteson EL. *The Epidemiology of ANCA Associated Vasculitis in the U.S.: A 20 Year Population Based Study*. Arthritis Rheumatol, 2017;69.
⁴Myasthenia Gravis National Organization for Rare Disorders. <https://rarediseases.org/rare-diseases/myasthenia-gravis/> [accessed 2021-03-29]
⁵Guillain-Barré syndrome. Orpha.net. https://www.orpha.net/consor/cgi-bin/OC_Exp.php?Lng=GB&Expert=2103 [accessed 2021-03-29]
⁶Chronic Inflammatory Demyelinating Polyneuropathy: Considerations for Diagnosis, Management, and Population Health. The American Journal of Managed Care. <https://www.ajmc.com/view/chronic-inflammatory-demyelinating-polyneuropathy-considerations-for-diagnosis-management-and-population-health> [accessed 2021-03-29]
⁷Marrie, R.A. *The Incidence and Prevalence of Neuromyelitis Optica*. International Journal of MS Care, 2013 Fall: 113-118

⁸Mehren, C.R. and Gniadecki, R. *Epidermolysis bullosa acquisita: current diagnosis and therapy*. Dermatol Reports, 2011;10-05
⁹Wertenteil, S, et al. *Prevalence Estimates for Pemphigus in the United States*. JAMA Dermatol, May 2019: 627-629.
¹⁰Immune Thrombocytopenia. National Organization for Rare Disorders. <https://rarediseases.org/rare-diseases/immune-thrombocytopenia/> [accessed 2021-03-29]
¹¹Warm Autoimmune Hemolytic Anemia. National Organization for Rare Disorders. <https://rarediseases.org/rare-diseases/warm-autoimmune-hemolytic-anemia/> [accessed 2021-03-29]
¹²Litvinova, E. et al. *Prevalence and Significance of Non-conventional Antiphospholipid Antibodies in Patients With Clinical APS Criteria*. Frontiers in Immunology, 2018;12-14.
¹³NCRD. *Acquired Hemophilia*. [accessed 2022-10-17], available at <https://rarediseases.org/rare-diseases/acquired-hemophilia/>
¹⁴Hogan M, Berger JS. *Heparin-induced thrombocytopenia (HIT): Review of incidence, diagnosis, and management*. Vascular Medicine, 2020;25(2):160-173. doi:10.1177/1358863X19898253

Anti-GBM, a rare acute autoimmune disease

Incidence

1.6

in a million affected annually^{1,2}

Standard of Care

- Plasma Exchange
- Cyclophosphamide (CYC)
- Glucocorticoids

Results from Phase 2 study of imlifidase in anti-GBM disease published in Journal of American Society of Nephrology (JASN)³

10 out of 15 patients were dialysis independent after six months vs. the historical cohort⁴, where only 18% had functioning kidney

Inflammation in the glomeruli

Early symptoms are unpecific...

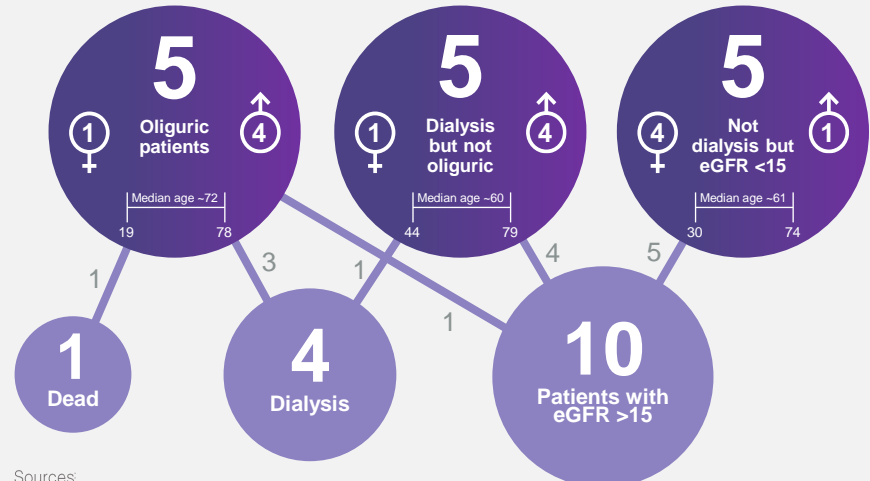
...but can lead to rapid destruction of the kidney and/or the lung

Data published in JASN³

Endopeptidase Cleavage of Anti-Glomerular Basement Membrane Antibodies *in vivo* in Severe Kidney Disease: An Open-Label Phase 2a Study

Frisk, Ulrik,^{1,2} Wladimir Tsigan,¹ Andreas Kronbichler,^{3,4} Annette Bruchfeld,^{1,5} Inga Lönnér,¹ Lovén Hestberg,⁶ Eric Douglas,⁷ Arvid Ljunger,⁷ Nassim Karim,^{8,9} Céline Rafat,¹⁰ Mark Myllyluoto,¹¹ Vladimir Tesar,¹² Anders Remuzzi,¹³ Christian Eggers,¹⁴ Charlotte Skjøth,¹⁵ Stephen McAloon,¹⁶ John Miska,¹⁶ Ingelborg Björns,¹⁷ Elisabeth Sorenson,¹⁸ and Martin Sjöstrand,¹⁹ 17

ABSTRACT
Background The prognosis for kidney survival is poor in patients presenting with circulating anti-glomerular basement membrane (GBM) antibodies and severe kidney injury. It is unknown if treatment with an endopeptidase that cleaves circulating and kidney bound IgG can alter the prognosis.
Methods An investigator-driven phase 2a on-arm study (EudraCT 2016-00402-39) was performed in 17 hospitals in five European countries. A single dose of 0.25 mg/kg of imlifidase was given to 15 adults treated with cyclophosphamide and corticosteroids, but plasma exchange only if antibodies rebounded. The primary outcome was safety and dialysis independence at 6 months.
Results At inclusion, ten patients were dialysis dependent and the other five had eGFR levels between 7 and 14 mL/min per 1.73 m². The median age was 61 years (range 50-72), six were women, and five were also treated for anti-neutrophil cytoplasmic antibodies. Three hours after imlifidase infusion, all patients had anti-GBM antibody levels below the reference range of a preproliferative assay. At 6 months, 4/15 (27%) were dialysis independent. This is significantly higher compared with 18% (one out of five) in our cohort of control subjects (P=0.05). Patients' most frequent adverse events (including one death) were reported, were assessed as probably or possibly related to the study drug.
Conclusions In this pilot study, the use of imlifidase was associated with a better outcome compared with standard care, without major safety issues, but the findings need to be confirmed in a randomized controlled trial.
Clinical Trial registration number: EudraCT 2016-00402-39 <https://www.clinicaltrialsregister.eu/ctr-search/search?term=EudraCT2016-00402-39>
 JASN 93: no. 10, 2022. doi: 10.1159/0005181146



Sources

- ¹ Wang et al., J. Intern. Med., 2015
- ² Desai et al., Front. Endocrinol., 2019
- ³ Uhlin et al. JASN (2022)
- ⁴ 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

Pivotal phase 3 trial with imlifidase in 50 anti-GBM patients to evaluate kidney function after six months

Study Design

- Open-label, controlled, randomized, multi-center phase 3 trial evaluating renal function in patients with severe anti-GBM disease imlifidase + SoC vs. SoC

Subjects

- 50 anti-GBM patients to be enrolled
- Patients will be followed for six months
- Recruitment at 30-40 clinics across US/UK/EU

Doses/Follow up time

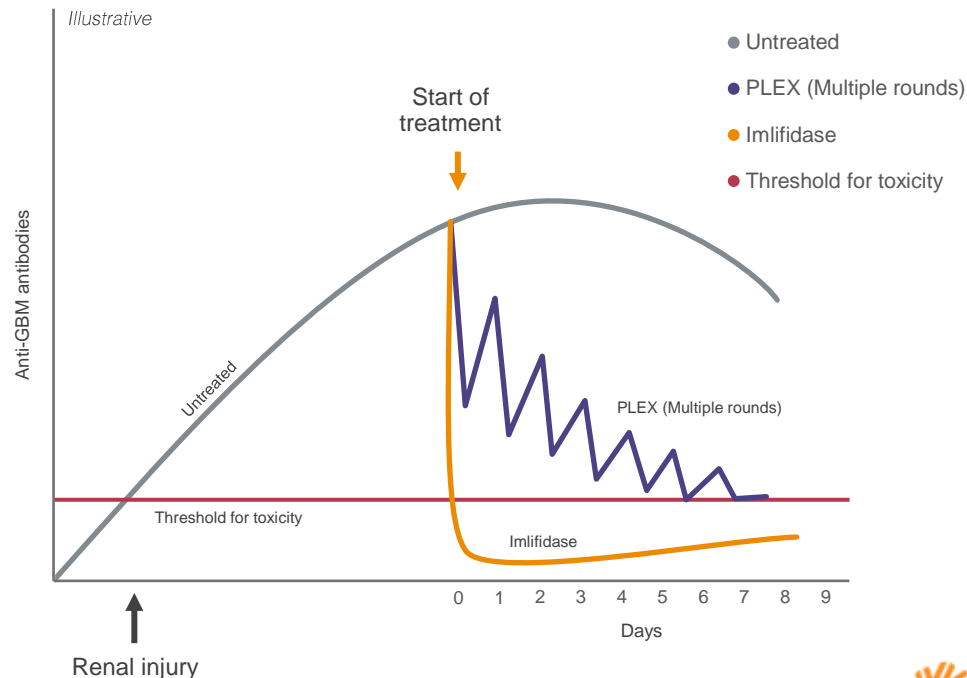
- Single dose of imlifidase with 180 days follow-up

Main Objectives

- Renal function is evaluated by estimated glomerular filtration rate (eGFR) at 6 months
- Dialysis need at 6 months

Status

- 18/50 patients enrolled as of Feb 2, 2024



Imlifidase demonstrated positive safety, tolerability, and early efficacy outcomes in phase 2 trial in Guillain-Barré Syndrome (GBS)

Incidence

1-2

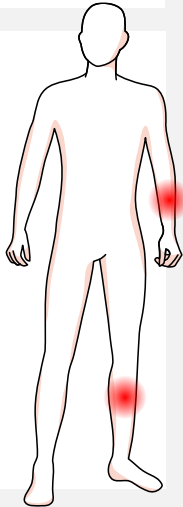
in 100,000 annually in 7 major markets¹

Standard of Care

- Intravenous immune globulin (IVIg) or
- Plasma Exchange (PLEX)

Indication

- Rapidly and progressively weakens extremities
- Triggered frequently by viral infections

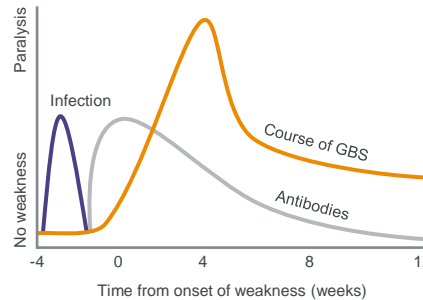


High unmet need

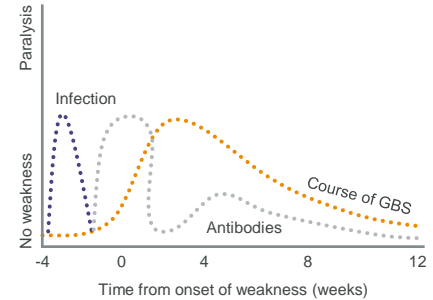
- 1/3 of hospitalized patients require mechanical ventilation
- Remaining long lasting symptoms in ca 40% of patients

FDA granted Orphan Drug Designation to imlifidase for the treatment of GBS

Today's standard of care, IVIg or PLEX Illustrative



Potential with imlifidase Illustrative



Study design: Study is an open-label, single arm, multi-center trial in 30 patients

First high-level data: Imlifidase was safe and well tolerated, and when compared to previously published data - a rapid improvement across several efficacy outcome measures was observed in patients treated with imlifidase in combination with SoC

Sources:

¹⁾ McGrogan et al. Neuroepidemiology 2009;32(2): 150-63.

Further analysis to contextualize efficacy data from the single arm phase 2 study (15-HMedIdeS-09)

Our results



15-HMedIdeS-09
Single Arm Trial (imlifidase + IVIg)

Time to, and extent of, disability improvement as measured by GBS disability score (GBS-DS) and other endpoints.



Indirect treatment comparison



15-HMedIdeS-09
trial population
(imlifidase + IVIg)

Vs.



External control of real-world data of GBS patients treated with IVIg



Contextualized results



Comparison will help interpretation of results.

Investigator-initiated phase 2 study in ANCA-associated vasculitis

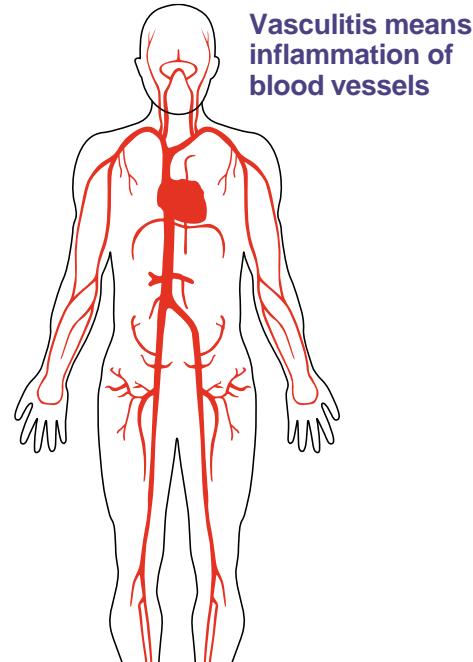
- a group of autoimmune diseases characterized by inflammation of blood vessels with very few treatment options today

Incidence

~3 in 100,000 annually across EU/US of which 8-36% are estimated to have Acute Respiratory Distress Syndrome due to pulmonary hemorrhage^{1,2}

Standard of Care

- Current protocol is Immunosuppression and Intensive support care



The investigator-initiated trial (IIT) is sponsored by Charité Universitätsmedizin, Berlin



Study design

- Single arm, single center, phase 2 study with the primary objective to evaluate efficacy and safety on top of SoC
- 10 patients with severe ANCA-associated vasculitis and Acute Respiratory Distress Syndrome will be treated with imlifidase on top of SoC
- 3 out of a target of 10 patients treated Q4'23
- Trial led by Dr. Adrian Schreiber and Dr. Philipp Enghard at Charité

Indication

- Causes damage to small blood vessels in the body resulting in inflammation and damage to organs, such as the kidneys, lungs etc.³
- Progress of the disease results in end stage kidney disease in 25 percent of patients⁵
- Most severe cases involving lungs lead to respiratory failure⁴
- Few treatment options today

1. Berti A, et al. Arthritis Rheumatol. 2017;69.
 2. Rathmann J, et al. RMD Open. 2023;9:e002949.
 3. Falk RJ, Jennette JC. The New England journal of medicine. 1988;318(25):1651-7.
 4. Flossmann O, et al. Annals of the rheumatic diseases. 2011;70(3):488-94.
 5. Booth AD, et al. American journal of kidney diseases. 2003;41(4):776-84.

Our unique antibody cleaving enzyme technology may have relevance across a range of indications

Targeting rare IgG mediated diseases



Auto-immune diseases

Anti-GBM disease paves the way for development in other autoimmune diseases

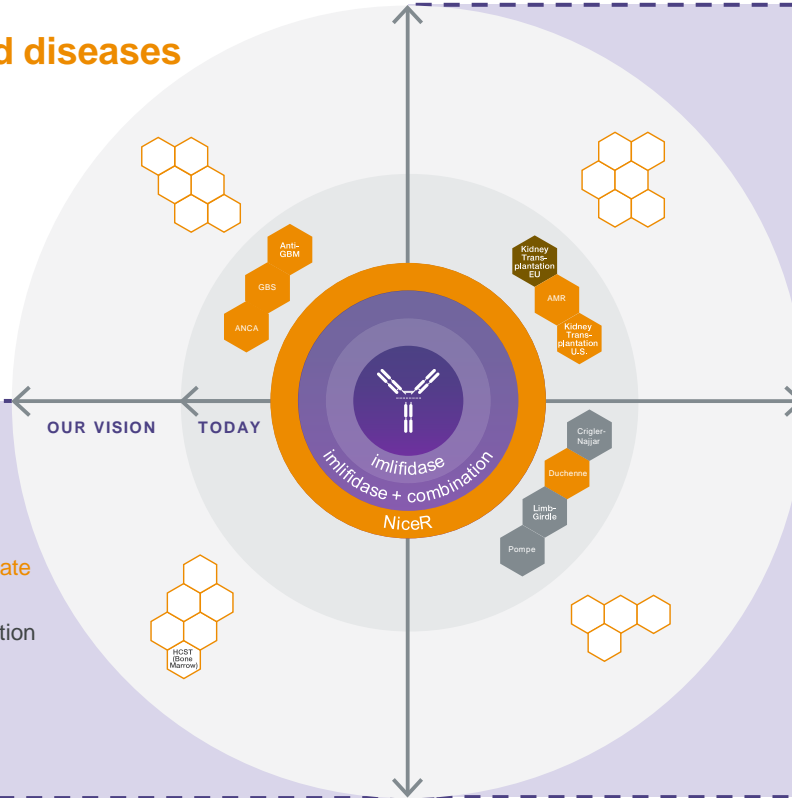
- Rapidly progressive glomerulonephritis
- Neurological disorders
- Skin and blood disorders



New therapies

IgG-cleaving enzymes to enable or even potentiate cancer therapy

- Allogenic stem cell (bone marrow) transplantation (HSCT)



Transplantation

Shaping a new standard for desensitization will help enable new indications in transplantations

- Antibody mediated rejection (AMR) in kidney transplantation
- Other transplantation types



Gene therapy

Exploring opportunities in gene therapy

- Encouraging preclinical data published in Nature
- Validation through collaborations with Sarepta, AskBio, Genethon
- Wide indication landscape beyond



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Calendar and events

March 6, 2024 Life Sciencedagen, Sahlgrenska Universitetssjukhuset Gothenburg

Mar 20, 2024 Annual Report 2023

April 8-11, 2024 Needham Healthcare Conference (virtual)

April 16-17, 2024 Van Lanschot Kempen Life Science Conference, Amsterdam

Apr 18, 2024 Interim Report for January-March 2024

June 27, 2024 2024 Annual General Meeting

July 18, 2024 Half-year Report January-June 2024

Oct 24, 2024 Interim Report for January-September 2024