

MAJ PETERSEN  
Rare disease  
Global Drug Discovery  
Denmark



What we do

# Driving change through scientific & innovation outreach





# Novo Nordisk at a glance

Novo Nordisk is a leading global healthcare company, founded in 1923 and headquartered in Denmark.

Our purpose is to drive change to defeat serious chronic diseases, built upon our heritage in diabetes.

We do so by pioneering scientific breakthroughs, expanding access to our medicines, and working to prevent and ultimately cure disease.

1. <https://companiesmarketcap.com/pharmaceuticals/largest-pharmaceutical-companies-by-market-cap/> (As of 25 January 2024).

Supplier of nearly **50%** of the world's insulin

Net sales **232.3** billion DKK

Affiliates in **80** countries

More than **64,000** employees

Total tax contribution **51** billion DKK



R&D centres in China, Denmark, India, UK and US

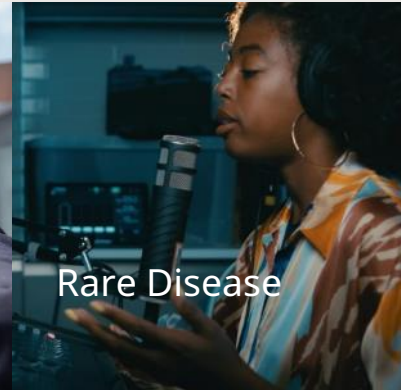


Strategic production sites in Denmark, Brazil, China, France and US

Globally, serving **41.6** million people living with diabetes and obesity



Cardiovascular & Emerging Therapy Areas



Rare Disease



Diabetes



Obesity

**A top five** pharma company measured by market value<sup>1</sup>

# Our core technology platforms



## Proteins & peptides

Our core expertise is discovering and developing therapeutic proteins and peptides with world-leading capabilities in protein expression, engineering and formulation.



## Cell therapy

By using pluripotent stem cells, we aim to develop specialised cells for life-changing treatments that halt or perhaps reverse progression of diseases which are caused when particular cell types become lost or damaged.



## RNAi

RNA interference (RNAi) therapies harness biological processes to selectively silence genes that cause or contribute to disease.



## RNA and gene therapies

Gene editing in the shape of inserting, deleting, modifying or replacing DNA in the human genome holds the promise of delivering a true cure for genetic diseases.

### *Delivery platforms*



## Injection devices & companion software

Our innovative devices and connected solutions combine patient insight with engineering excellence to make drug delivery as simple as possible.



## Oral delivery

Most of our therapeutic peptides and proteins are injectable, but we aim to make the latest innovations more accessible to more patients through oral products.

# High need for innovation to impact the pipeline

Novo Nordisk has experienced **tremendous recent growth** through our GLP-1 franchise

High **exposure on cardio-metabolism**



To sustain future growth, Novo Nordisk needs to **expand the breadth and depth** of the **pipeline**

**Venture** (Investors) have been **reluctant** to invest in **cardio-metabolism**

Novo Nordisk sees a need to **incentivise innovation** to seed for **future opportunities**

# Science2Medicine

Unlocking the number of translatable opportunities in cardiometabolism

## Science2Medicine **creationNN**

Funding access to incubators to promising start-ups – golden tickets

## Science2Medicine **translationNN**

Quest to address big scientific challenges in co-creation partnerships with rising-star academic PIs. Up to € 300K

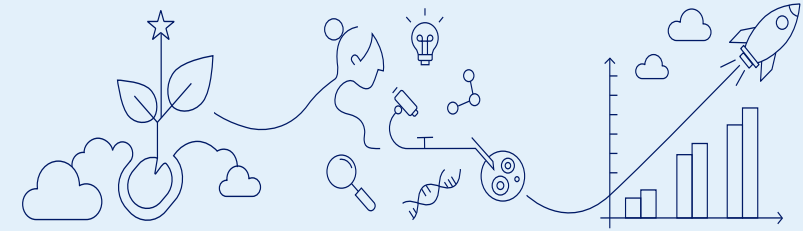
## Science2Medicine **iNNvest**

Equity investments in promising biotechs. Up to \$7M investment size

## Science2Medicine **validationNN**

De-risking of scientific hypotheses through lean funding of key validation and killer experiments. Up to € 50K





## About the program

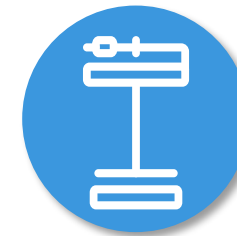
- Early stage (seed and series A)
- Evergreen (Balance Sheet)
- Up to 7 mUSD in first investment
- Follow lead investor
- Minority ownership positions (<20%)
- Observer seat and/or Scientific Advisory Board participation when appropriate
- Rights when possible

## What are we looking for?

- Venture backed companies in **Diabetes, Obesity and CVD** with programs otherwise not accessible through classic BD collaboration/license structures
- Companies pursuing a relevant biology where co-investment would enable development for cardiometabolic indications



Pipeline impact  
short- to mid-term



Capital approach  
leveraging balance sheet



Deal flow  
through venture



# Partnering interests in Diabetes

**Transformational technologies and disease modifying therapies** for diabetes that can prevent, stop/delay progression, induce remission or cure diabetes

Technologies and therapies that can prevent, **stop/delay development of complications**

**Treatment options decreasing patient burden**  
e.g. ultralow frequency of administration



**Areas of high interest** include but not limited to:

- Improvement of insulin sensitization
- Novel mechanism for glucose control with added benefit on weight and/or comorbidities
- Improvement of pancreatic islet health and beta-cell function
- Next generation of incretin and amylin-based therapies

Specifically for **Type 1 diabetes**:

- Addressing immune dysfunction
- Curative T1D cell therapy with scalable stem cell therapy
- Transformational insulin therapy e.g. glucose responsive insulin therapy



**Cynthia Lindelwa Rilitiyana**  
Cynthia has type 2 diabetes and lives in South Africa

Treatment of people with type 2 diabetes depends on the stage of the disease. Initially, oral medication is often sufficient while progressed stages require GLP-1 and eventually insulin.

People with type 1 diabetes are dependent on daily insulin injections to control their blood sugar levels and delay or reduce diabetes complications

# 90%

Type 2 diabetes accounts for around 90% of all cases of diabetes

## Partnering interests in Obesity

- **Energy intake:**
  - Homeostatic control of feeding circuits in the CNS, peripheral GI control of appetite/hunger including vagal afferent, nutrient/chemical sensing mechanism
  - Hedonic feeding and reward circuits to modulate feeding
- **Energy expenditure:**
  - Mitochondrial biology including mitochondrial biogenesis and controlled uncoupling mechanism
  - Substrate futile cycling, hepatic lipid oxidation and fuel utilization
  - Non-canonical thermogenesis pathways, such as selective sympathetic nervous system activation
- **Healthy weight management:**
  - Lean mass preservation: understanding of proteostasis (muscle proteolysis and autophagy), muscle hypertrophy, muscle fiber type switch
  - Anti-inflammation and oxidative stress
- **Body weight control:**
  - Counter-regulatory mechanism on weight regain, putative body weight setpoint control mechanism
  - Vascular dynamics in metabolic active tissues including fat and brain
  - Regulation of hormonal sensitivity (ie. Leptin, ghrelin) in metabolic relevant tissues including adipose tissue, brain, skeletal muscle and liver
  - Gut microbiome as biomarker & pathophysiology underlying metabolic disorders

## Obesity is a global pandemic

813M

adults live with obesity<sup>1</sup>

175M

children and adolescents live with obesity<sup>1</sup>

64%

of people with obesity are not diagnosed<sup>2</sup>



# Partnering interests in serious chronic diseases

## Cardiovascular disease (CVD)

- Address unmet needs in ASCVD (tackle the residual risk left after standard of care by targeting inflammation, dyslipidemia, endothelial & smooth muscle biology), rHTN, refractory angina, and heart failure (HFpEF, HFrEF, cardiomyopathies, and fibrosis)
- Out-of-scope: Anti-platelets/anti-coagulants

## Chronic kidney disease (CKD)

- Prioritized indications are cardio-renal-metabolic kidney diseases including diabetes- and obesity-related CKD, CKD with hypertension, CKD with heart failure and rare renal diseases including complement-mediated kidney disease
- Mechanisms of interest include preserving vasculature and glomerular integrity, targeting metabolism and reducing inflammation as well as complement inhibition

## Metabolic dysfunction-associated steatohepatitis (MASH)

- Fibrosis resolution/inhibition of fibrogenesis, suppression of chronic inflammation, liver regenerative approaches. Non-invasive diagnostic biomarkers



**Angel Perea Zhucar**

Angel has type 2 diabetes and CVD and lives in Mexico

# #1

Cardiovascular disease (CVD) is the leading cause of death worldwide<sup>1</sup>

Despite guideline recommended standard of care therapy, high-risk patients still experience high rates of cardiovascular events, such as heart attack and stroke.<sup>2</sup>

# 6.5%

MASH is present up to 6.5% of the general population<sup>3</sup>

# Our organisational anchor



Novo Nordisk

Way

of Innovation Outreach