

**UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION**  
Washington, D.C. 20549

**Form 8-K**

**CURRENT REPORT**  
Pursuant to Section 13 or 15(d)  
of the Securities Exchange Act of 1934

Date of Report (Date of earliest event reported): January 13, 2025

**WAVE LIFE SCIENCES LTD.**

(Exact name of registrant as specified in its charter)

Singapore  
(State or other jurisdiction  
of incorporation)

001-37627  
(Commission  
File Number)

98-1356880  
(IRS Employer  
Identification No.)

7 Straits View #12-00, Marina One  
East Tower  
Singapore  
(Address of principal executive offices)

018936  
(Zip Code)

Registrant's telephone number, including area code: +65 6236 3388

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions (see General Instruction A.2. below):

- Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)
- Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)
- Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))
- Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

Indicate by check mark whether the registrant is an emerging growth company as defined in Rule 405 of the Securities Act of 1933 (§230.405 of this chapter) or Rule 12b-2 of the Securities Exchange Act of 1934 (§240.12b-2 of this chapter).

Emerging growth company

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act.

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Trading symbol	Name of each exchange on which registered
\$0 Par Value Ordinary Shares	WVE	The Nasdaq Global Market

**Item 7.01 Regulation FD Disclosure.**

From time to time, Wave Life Sciences Ltd. (the “Company”) presents and/or distributes slides and presentations to the investment community to provide updates and summaries of its business. On January 13, 2025, the Company updated its corporate presentation, which is available on the “For Investors & Media” section of the Company’s website at <http://ir.wavelifesciences.com/>. This presentation is also furnished as Exhibit 99.1 to this Current Report on Form 8-K.

*The information in this Item 7.01 and exhibit 99.1 attached hereto is being furnished and shall not be deemed “filed” for purposes of Section 18 of the Securities Exchange Act of 1934, as amended (the “Exchange Act”), or otherwise subject to the liabilities of that Section, nor shall it be deemed incorporated by reference into any registration statement or other filing under the Securities Act of 1933, as amended, or the Exchange Act, except as shall be expressly set forth by specific reference in such filing.*

**Item 9.01 Financial Statements and Exhibits.**

(d) Exhibits.

The following exhibit relating to Item 7.01 is furnished and not filed:

<b>Exhibit No.</b>	<b>Description</b>
99.1	<a href="#">Corporate Presentation of Wave Life Sciences Ltd. dated January 13, 2025</a>
104	Cover Page Interactive Data File (embedded within the Inline XBRL document)

**SIGNATURES**

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned hereunto duly authorized.

**WAVE LIFE SCIENCES LTD.**

By: /s/ Kyle Moran  
\_\_\_\_\_  
Kyle Moran  
Chief Financial Officer

Date: January 13, 2025



**Wave Life Sciences**  
Corporate Presentation

January 13, 2025





## Forward-looking statements

This document contains forward-looking statements. All statements other than statements of historical facts contained in this document, including statements regarding possible or assumed future results of operations, preclinical and clinical studies, business strategies, research and development plans, collaborations and partnerships, regulatory activities and timing thereof, competitive position, potential growth opportunities, use of proceeds and the effects of competition are forward-looking statements. These statements involve known and unknown risks, uncertainties and other important factors that may cause the actual results, performance or achievements of Wave Life Sciences Ltd. (the "Company") to be materially different from any future results, performance or achievements expressed or implied by the forward-looking statements. In some cases, you can identify forward-looking statements by terms such as "may," "will," "should," "expect," "plan," "aim," "anticipate," "could," "intend," "target," "project," "contemplate," "believe," "estimate," "predict," "potential" or "continue" or the negative of these terms or other similar expressions. The forward-looking statements in this presentation are only predictions. The Company has based these forward-looking statements largely on its current expectations and projections about future events and financial trends that it believes may affect the Company's business, financial condition and results of operations. These forward-looking statements speak only as of the date of this presentation and are subject to a number of risks, uncertainties and assumptions, including those listed under Risk Factors in the Company's Form 10-K and other filings with the SEC, some of which cannot be predicted or quantified and some of which are beyond the Company's control. The events and circumstances reflected in the Company's forward-looking statements may not be achieved or occur, and actual results could differ materially from those projected in the forward-looking statements. Moreover, the Company operates in a dynamic industry and economy. New risk factors and uncertainties may emerge from time to time, and it is not possible for management to predict all risk factors and uncertainties that the Company may face. Except as required by applicable law, the Company does not plan to publicly update or revise any forward-looking statements contained herein, whether as a result of any new information, future events, changed circumstances or otherwise.



Our Mission

**To unlock the broad  
potential of RNA  
medicines to  
transform human  
health**

**WAVE**<sup>™</sup>  
LIFE SCIENCES

## 2024 was a year of breakthroughs

### Pioneering RNA editing

- ✓ Achieved first-ever RNA editing in humans, advancing best-in-class treatment for AATD
- ✓ Expanded GalNAc-AIMER pipeline: unveiled three new wholly owned RNA editing programs targeting PNPLA3, LDLR, APOB

### Innovating in obesity

- ✓ Selected and advanced INHBE GalNAc-siRNA clinical candidate, a novel, long acting, muscle sparing approach for obesity grounded in human genetics
- ✓ Submitted CTA for Phase 1 INLIGHT clinical trial of WVE-007

### Advancing best-in-class treatments for HD and DMD

- ✓ Achieved first allele-selective mutant huntingtin silencing, wild-type sparing in clinic with WVE-003 for Huntington's disease
- ✓ Delivered positive interim DMD clinical data for WVE-N531 with highly consistent, mean muscle content-adjusted dystrophin expression of 9%

### Unlocking potential of PRISM platform

- ✓ Demonstrated proprietary PN breakthroughs for intracellular delivery and ability to silence and edit preclinically in high priority extra-hepatic tissues, including CNS

Expect to continue momentum with multiple data updates in 2025 and beyond



AATD: Alpha-1 antitrypsin deficiency  
CNS: Central nervous system

HD: Huntington's disease

DMD: Duchenne muscular dystrophy

CTA: clinical trial application

## The powerful convergence of a validated, best-in-class platform with genetics

- Multi-modal: RNA editing, RNAi, antisense, splicing
- Best positioned to engage endogenous machinery
- Unlocking new, high-impact therapeutic targets

**Unmatched toolkit to access novel biology**



**Data-driven discovery powered by human genetics**

- Real-time integration of new human genetic insights into discovery
- Proprietary deep learning models unveiling novel targets/target sites
- Accelerating time to clinic

**Foundation in chemistry innovation**

- Breakthroughs in intracellular delivery
- Step-change in potency, distribution, durability of effect
- No complex delivery vehicles (AAV, LNP)



# Differentiated RNA medicines clinical pipeline

## WVE-007 in Obesity



**GalNAc-siRNA targeting INHBE**

Multiple CTAs submitted since mid-December 2024; proof-of-concept clinical data expected in 2025

**~175M people living with obesity**

## WVE-006 in AATD



**GalNAc-RNA editing oligonucleotide**

RestorAATion-2 ongoing in Pi\*ZZ AATD patients; multidose data expected in 2025

**~200K patients with AATD**

## WVE-N531 in DMD



**Exon 53 splicing oligonucleotide**

FORWARD-53 trial ongoing; expect feedback from regulators and 48-week FORWARD-53 data in 1Q 2025

**~2,300 boys with DMD amenable to exon 53 skipping**

## WVE-003 in HD



**Allele-selective oligonucleotide**

Planning underway for potentially registrational Phase 2/3 study; IND submission expected 2H 2025

**~85K HD SNP3 patients across all disease stages**



Patient populations represent US and Europe; WVE-006 is partnered with GSK  
AATD: Alpha-1 antitrypsin deficiency DMD: Duchenne muscular dystrophy

HD: Huntington's disease

## Advancing WVE-007 as a novel, long acting, muscle sparing approach for obesity

WVE-007 is a GalNAc-conjugated small interfering RNA (GalNAc-siRNA) that targets INHBE to treat obesity

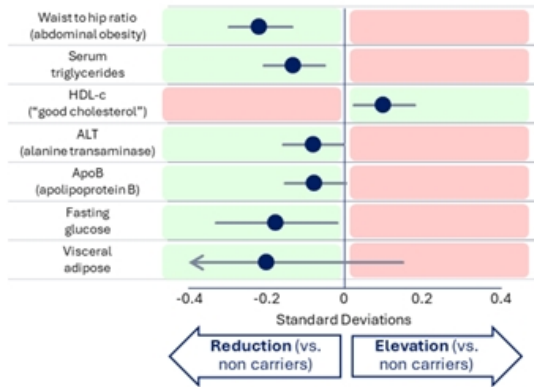


- Adults with obesity have higher risk for many serious health conditions, including heart disease, type 2 diabetes, and some forms of cancer<sup>1</sup>
- GLP-1s are current standard of care for weight loss, but impact is often limited by:
  - Loss of muscle mass<sup>2</sup>
  - Poor tolerability<sup>3</sup>
  - Frequent dosing<sup>4</sup>
  - High discontinuation rates<sup>5,6</sup>

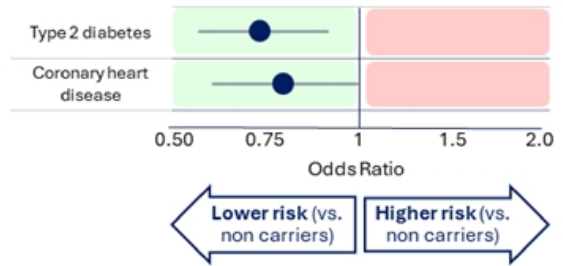
~175 million adults with obesity in US and Europe

# Human genetic data demonstrate that heterozygous INHBE LoF carriers have a healthy metabolic profile

## Heterozygous INHBE LoF carriers have favorable traits: lower abdominal obesity, lower triglycerides, higher HDL-c

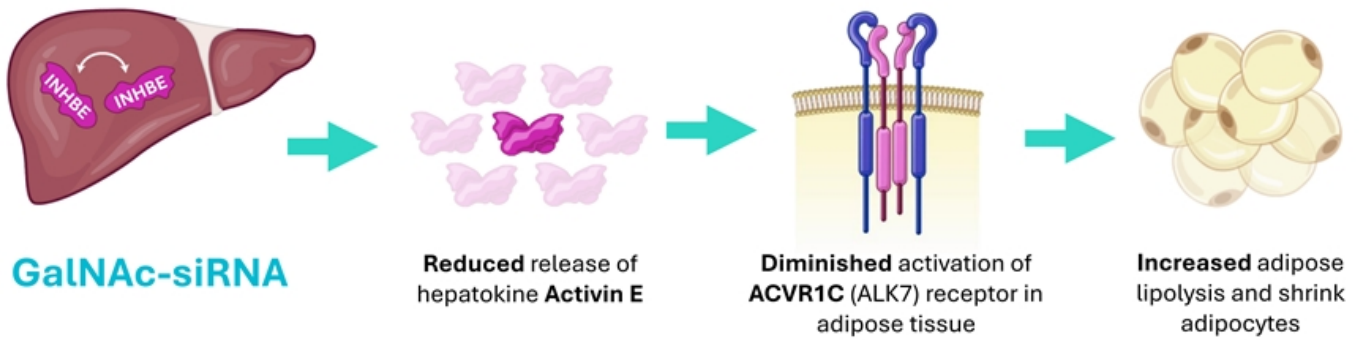


## Heterozygous INHBE LoF carriers have lower risk of Type 2 diabetes and CHD



**Silencing INHBE mRNA by  $\geq 50\%$  is expected to recapitulate the healthy metabolic profile of heterozygous INHBE loss of function (LoF) carriers**

## INHBE GalNAc-RNA expected to address health issues associated with pathogenesis of obesity, associated metabolic disease



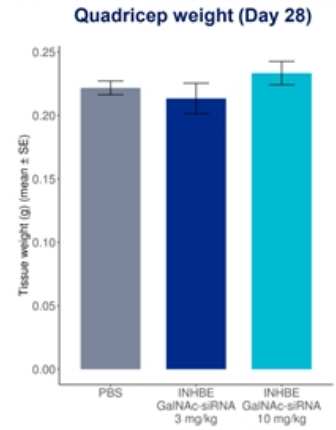
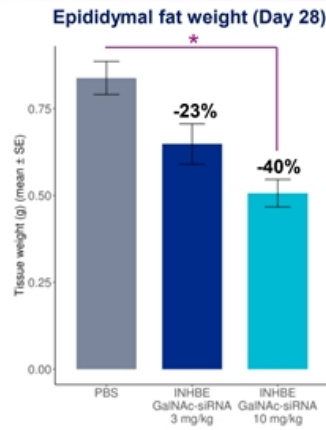
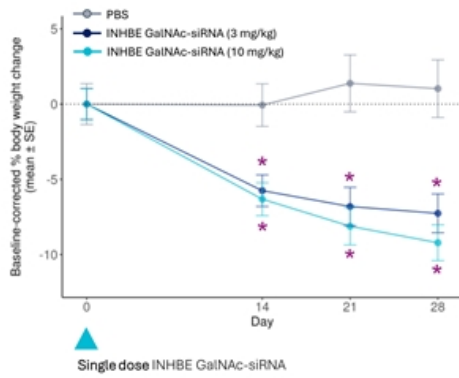
Decreased abdominal adiposity leads to weight loss and reduced risk for CVD and T2D

# Single doses of INHBE GalNAc-siRNA result in dose-dependent weight loss and reduction of visceral fat, without affecting muscle mass

✓ Reduction in body weight

✓ Reduction in visceral fat

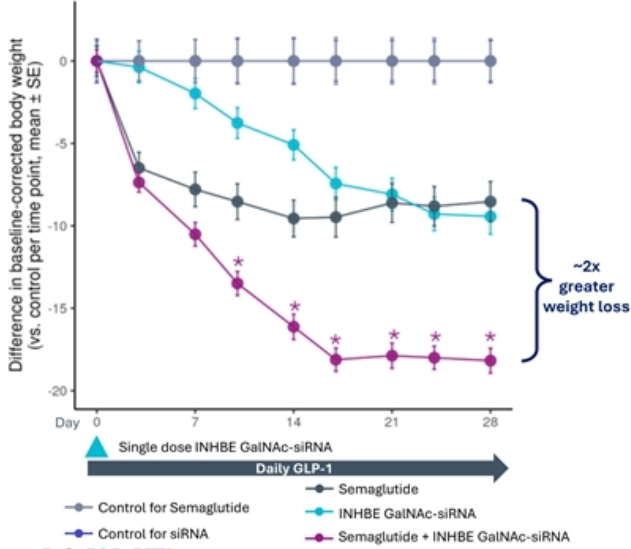
✓ No muscle loss



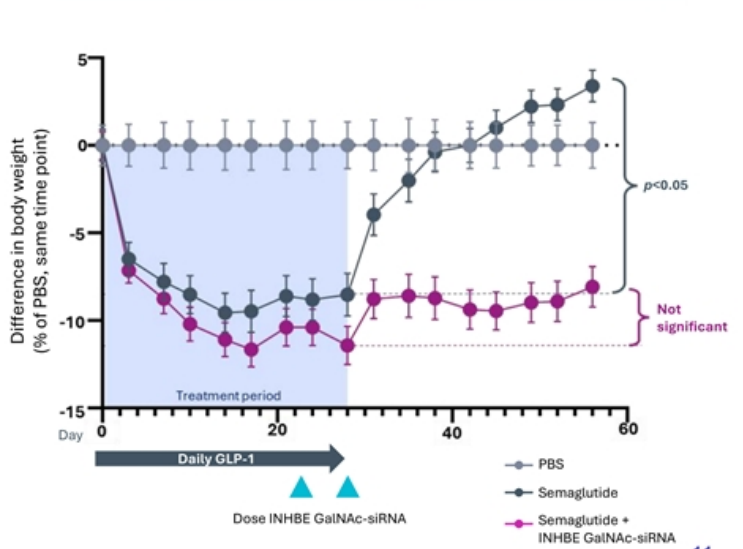
**INHBE GalNAc-siRNA has potential as monotherapy weight loss therapeutic**

# INHBE GalNac-siRNA can be used synergistically with GLP-1s or to prevent weight regain after the cessation of treatment with GLP-1s

✓ ~2x greater overall weight loss when added to GLP-1s



✓ Prevents weight regain after the cessation of GLP-1s



Left: 10nmol/kg in mouse is equivalent to therapeutic dose of GLP-1s in human. Stats: Linear Mixed Effects ANOVA with post hoc comparisons of marginal treatment effects of Semaglutide vs. Semaglutide + INHBE GalNac-siRNA per time point \*  $p < 0.05$ ; Right Stats: Linear Mixed Effects ANOVA with post hoc comparison of Day 28 vs. Day 56 marginal effects per treatment \*  $p < 0.05$

## Preclinical data support best-in-class profile and potential to use WVE-007 across multiple treatment settings with 1-2x a year dosing

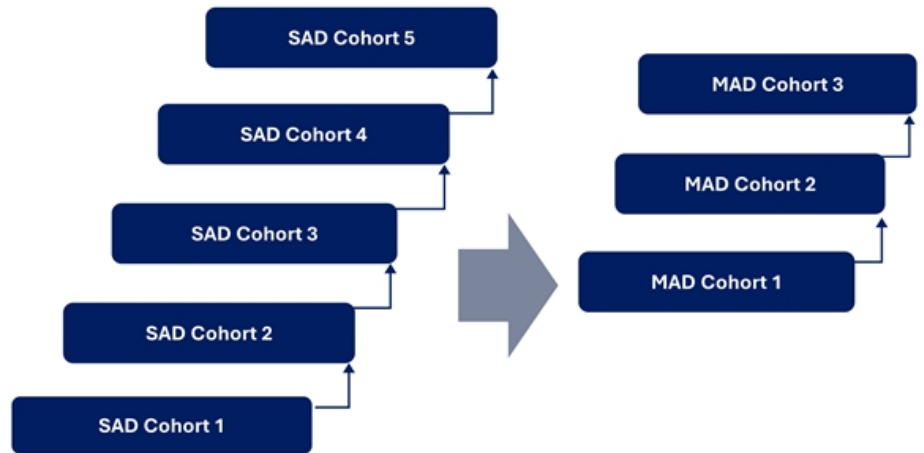
<i>Monotherapy</i>	<i>Add-on to GLP-1s</i>	<i>Maintenance</i>
<b>WVE-007 as a single agent</b>	<b>WVE-007 in addition to GLP-1 therapy</b>	<b>WVE-007 for patients who stop treatment with GLP-1 therapy</b>
<ul style="list-style-type: none"><li>✓ Weight loss similar to semaglutide with a single dose</li><li>✓ No loss of muscle mass</li><li>✓ Reduction in fat mass with preferential effect to the visceral fat</li><li>✓ Without suppressing food intake</li></ul>	<p>When administered as an add-on with semaglutide:</p> <ul style="list-style-type: none"><li>✓ A single dose of Wave's INHBE GalNac-siRNA doubled the weight loss observed with semaglutide alone</li></ul>	<ul style="list-style-type: none"><li>✓ Curtailed rebound weight gain upon cessation of semaglutide</li><li>✓ Prevention of weight cycling, which worsens the outcomes of various metabolic diseases</li></ul>

# INLIGHT: Phase 1 trial of WVE-007 in adults living with overweight or obesity, otherwise healthy

Randomized, double-blind, placebo-controlled study of ascending doses of WVE-007

## Trial Design

- **Objective:** Assess dose safety, tolerability, PK and PD
- **Key measurements**
  - **Primary:** Safety and Tolerability
  - **Secondary:** PK, Activin E
  - **Exploratory PD:**
    - Body weight
    - Body composition
    - Metabolic health
    - Biochemical markers



Expect to initiate dosing in INLIGHT in 1Q 2025; proof-of-concept clinical data expected in 2025



## Advancing WVE-006 (RNA editing) in AATD

WVE-006: GalNAc-conjugated, subcutaneously delivered, designed to address AATD-related lung disease, liver disease, or both



- AATD is a rare, inherited genetic disorder that is commonly caused by a G-to-A point mutation in the SERPINA1 gene
- Characterized by aggregation of mutant Z-AAT protein in hepatocytes and a lack of functional AAT in lungs
- People with AATD typically exhibit progressive lung damage, liver damage, or both
- Weekly intravenous augmentation therapy is the only treatment option for AATD in those with the lung pathology
- No approved therapies to address AATD liver disease

**~200K people in the US and Europe are homozygous for the Z allele**

# WVE-006 to address both liver and lung manifestations of AATD

## WVE-006 RNA editing treatment



**Subcutaneous injection (GalNAc)**

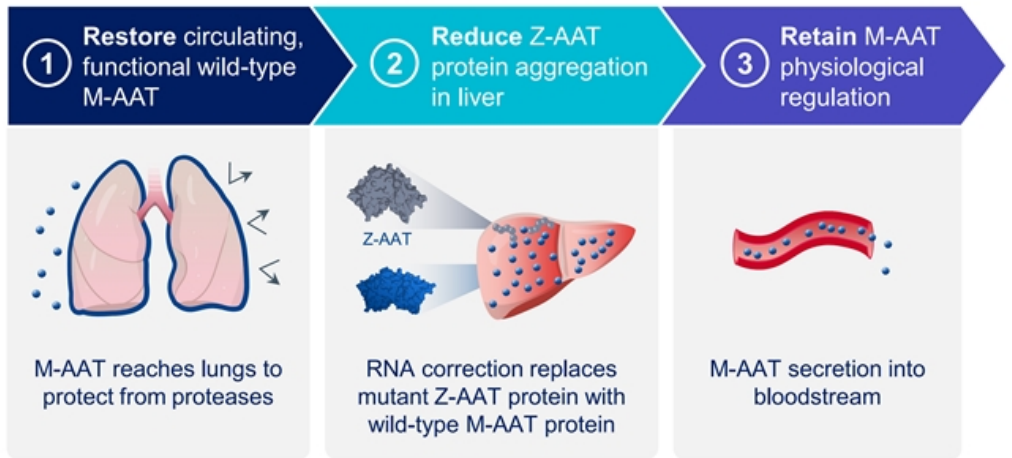


**Infrequent dosing**

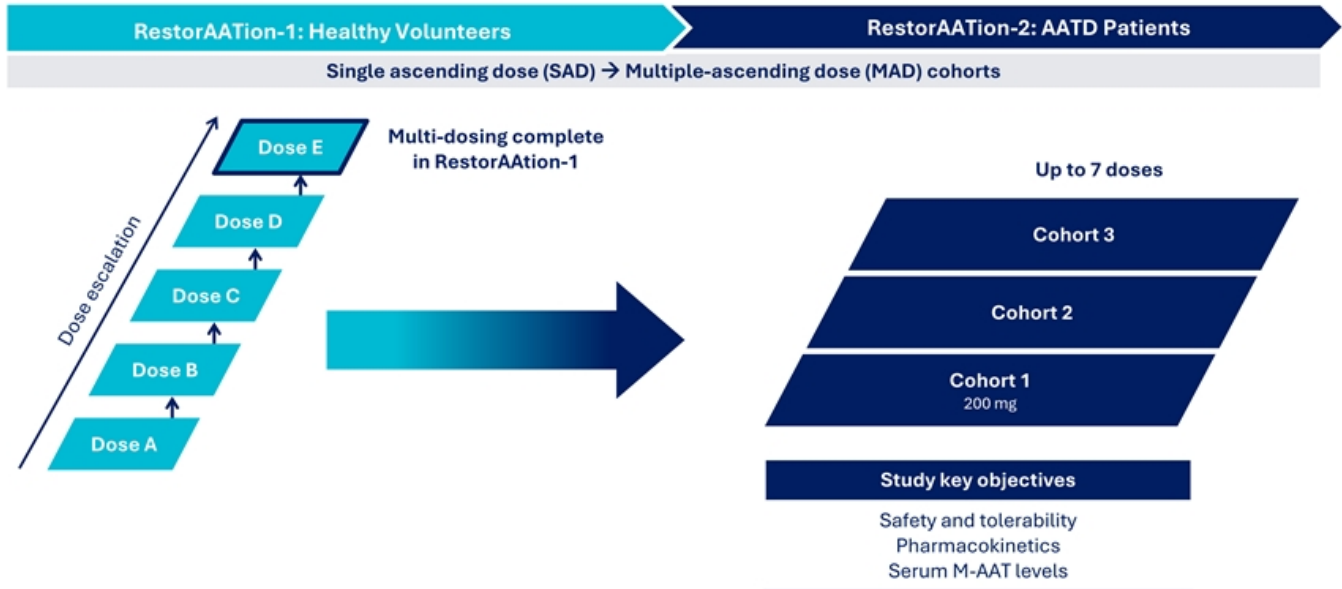


**Highly specific (no bystanders)**

## WVE-006 ADAR editing approach to address key goals of AATD treatment:



# RestorAATion-2 clinical trial in Pi\*ZZ AATD patients ongoing



## Achieved proof-of-mechanism for Wave's RNA editing platform

### Proof-of-mechanism achieved after a single dose in RestorAATion-2

- ✓ Total AAT protein increased to a mean of 10.8  $\mu\text{M}$  at day 15
  - ✓ Meets level that has been the basis for regulatory approval for AAT augmentation therapies
- ✓ Circulating wild-type M-AAT protein reached a mean of 6.9  $\mu\text{M}$  at day 15; more than 60% of total AAT
- ✓ Increases in total AAT from baseline and M-AAT protein were observed as early as day 3 and through day 57
- ✓ Increases in neutrophil elastase inhibition from baseline were consistent with production of functional M-AAT
- ✓ WVE-006 well tolerated with a favorable safety profile; all AEs mild-to-moderate, no SAEs

### Multidose data from RestorAATion-2 expected in 2025

## Wholly owned GalNAc-AIMER programs

✓ Strongly supported by human genetics

✓ Leverage unique platform capabilities; GalNAc-AIMers building on learnings of WVE-006

✓ Completely novel ways of treating diseases with high unmet need

✓ Readily accessible biomarkers and approaches to assess PD, defined regulatory paths

**Correction of PNPLA3**  
Genetically defined liver disease  
Patient population: ~9 million



**Upregulation of LDLR**  
HeFH  
Patient population: ~900,000, with expansion to ~30 million in follow on indications



**Correction of APOB**  
HeFH  
Patient population: ~70,000



Expect to initiate clinical development of additional RNA editing programs, including PNPLA3, LDLR, and APOB programs in 2026

## Advancing WVE-N531 in exon 53 amenable DMD

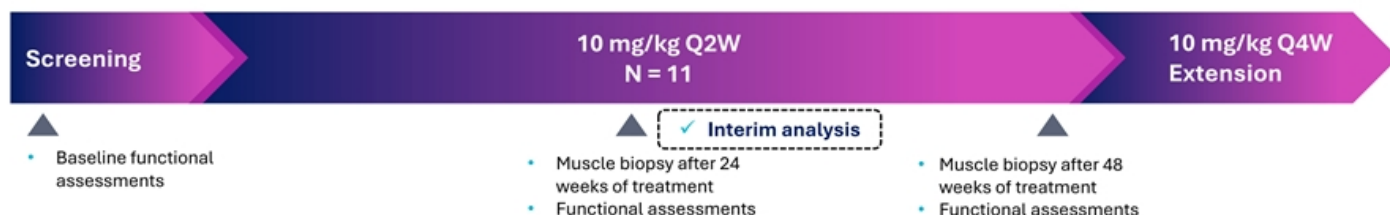
WVE-N531: exon skipping oligonucleotide designed to induce production of endogenous, functional dystrophin protein

- High unmet need for therapies delivering **more consistent dystrophin expression**, as few patients today achieve dystrophin >5% of normal
- **Opportunity to extend dosing intervals** beyond weekly standard of care to alleviate burden for patients and caregivers
- **Need to reach stem cells and distribute broadly to muscle tissues** to potentially enable muscle regeneration and impact respiratory and cardiac function
- WVE-N531 has Rare Pediatric Disease Designation and Orphan Drug Designation from FDA

**DMD impacts ~1 / 5,000 newborn boys annually; ~20,000 new cases annually worldwide**



# FORWARD-53: An ongoing potentially registrational open-label Phase 2 clinical trial of WVE-N531 in boys with DMD amenable to exon 53 skipping

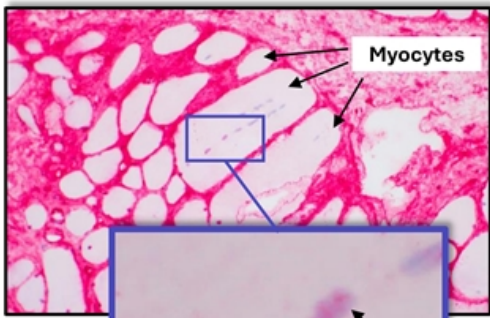


**Key Assessments:**

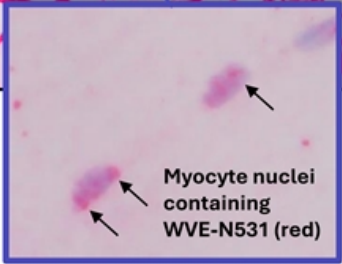
- Safety and tolerability
- Muscle biopsies after 24 and 48 weeks of treatment
  - PK: Drug tissue concentrations
  - PD: Exon-skipping, Dystrophin level (% of normal) as assessed by Western Blot
- Functional outcome measures
- 11 participants enrolled, including two from prior Part A clinical trial
  - Pre-specified analyses in ambulatory patients

# WVE-N531 is the only DMD therapeutic to show uptake in myogenic stem cells

## WVE-N531 uptake in myofiber nuclei



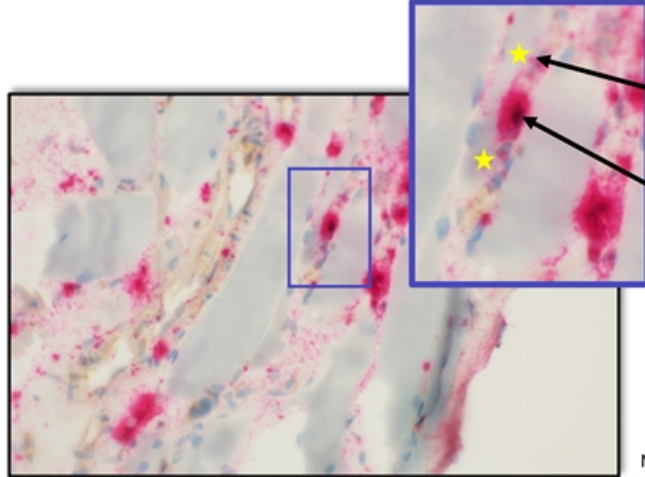
Mag: 20x



Mag: 40x

In-situ hybridization for WVE-N531

## WVE-N531 uptake in myogenic stem cells



Mag: 40x

Mag: 20x

Dual staining utilizing in-situ hybridization for WVE-N531 and PAX7 immunohistochemistry for stem cells



## Results of interim analysis: WVE-N531 has potential to be the best-in-class therapeutic for DMD amenable to exon 53 skipping

### Best-in-class dystrophin expression and muscle delivery

- Highly consistent, mean muscle content-adjusted dystrophin expression of 9%
- Muscle tissue concentrations of ~41,000 ng/g and tissue half-life of 61 days (supports monthly dosing)
- Preclinical data suggests higher levels of dystrophin protein expression in **heart** and **diaphragm** than skeletal muscle

### Evidence supporting improved muscle health

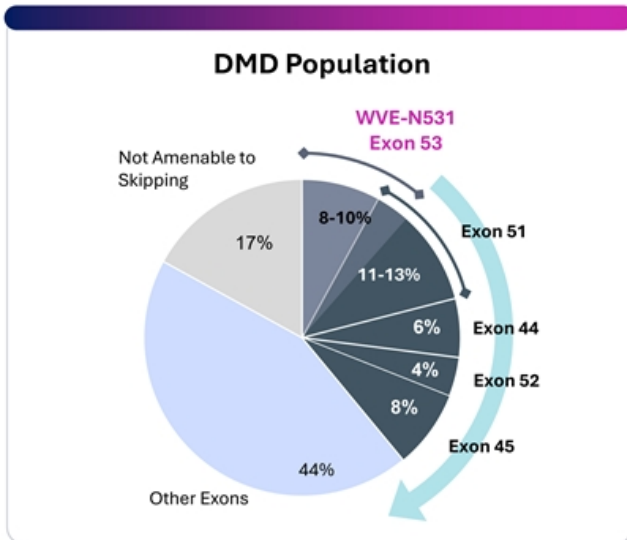
- Improvement in serum biomarkers for muscle health
- Localization of WVE-N531 in myogenic stem cells
- Improvement in myofiber regeneration

### Safe and well tolerated

- No serious adverse events (SAEs)
- No discontinuations
- No oligonucleotide class effects

Expect feedback from regulators and the 48-week FORWARD-53 data in 1Q 2025

## Unlocking Wave's best-in-class exon skipping portfolio



- Data for exons 51, 44, 52, 45 demonstrate potential for even greater dystrophin expression
- Opportunity to address up to 40% of population (~10,000 patients in US and Europe)
- Expect to engage regulators on a platform trial design that incorporates multiple exons

## Advancing WVE-003 to address HD across all stages of disease

WVE-003 is a first-in-class, allele-selective oligonucleotide for the treatment of HD



- HD is a monogenic autosomal dominant genetic disease; fully penetrant and affects entire brain
- No current disease modifying therapies for HD
- Characterized by cognitive decline, psychiatric illness, and chorea; ultimately fatal
- Expanded CAG triplet repeat in *HTT* gene results in production of mutant huntingtin protein (mHTT) and loss of function in wild-type huntingtin protein (wtHTT)

**>200,000 patients with HD across all disease states**

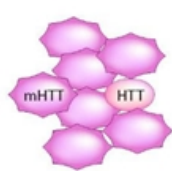
**Pre-Symptomatic HD**  
(~160K in US and Europe)

**Symptomatic HD**  
(~65K in US and Europe)

# Wild-type HTT (wtHTT) is critical for normal neuronal function and loss of wtHTT contributes to cellular dysfunction

## Mutant HTT has a detrimental effect on wild-type HTT function

- Lowering mHTT is expected to restore physiological control over HTT gene expression and relieve its detrimental effect on wtHTT function



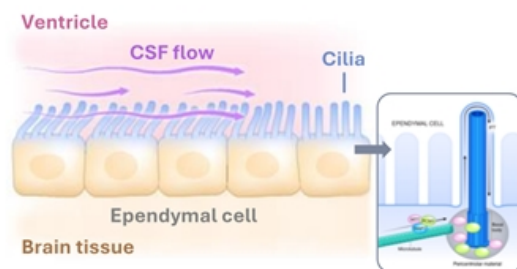
Sequestered wild-type HTT



Trafficking
Gene expression
DNA repair
Neuronal repair & regeneration
Ciliogenesis
Mitosis
CSF

## Wild-type HTT is crucial for cilia health

- In the absence of wtHTT, ciliogenesis fails, disrupting CSF flow, causing hydrocephalus

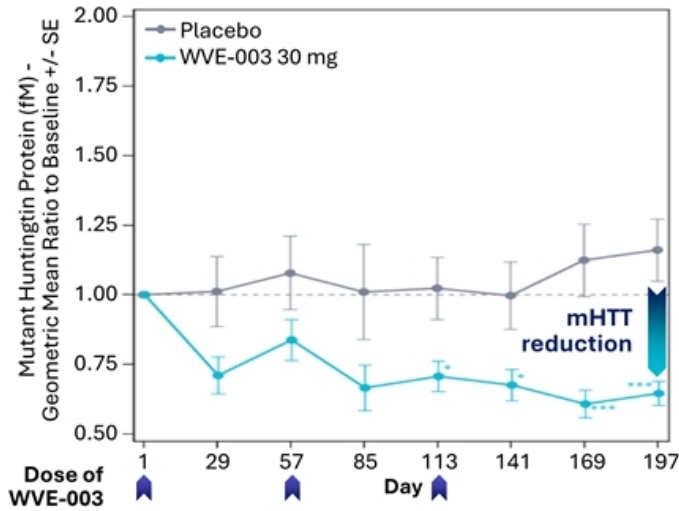


Only an allele-selective approach can ameliorate both loss-of-function and gain-of-function disruptions driven by mHTT

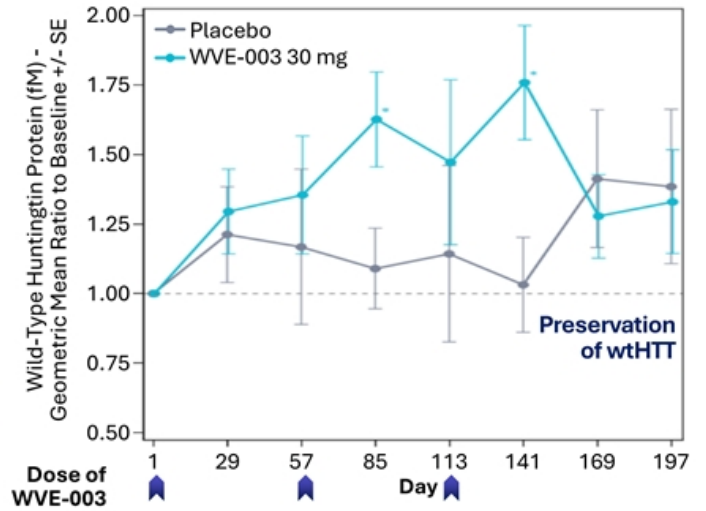
# Allele-selective lowering of mutant HTT protein of up to 46% with three doses of WVE-003 and preservation of wild-type HTT

Durability of mHTT reductions supports potential for quarterly dosing intervals

## Mutant HTT protein levels

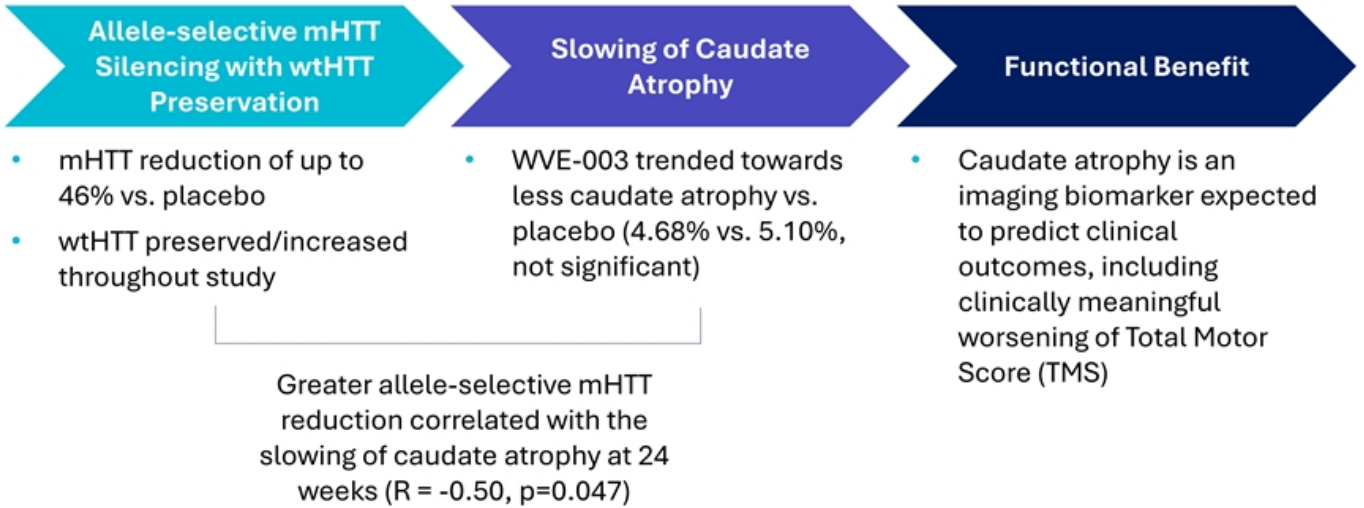


## Wild-type HTT protein levels

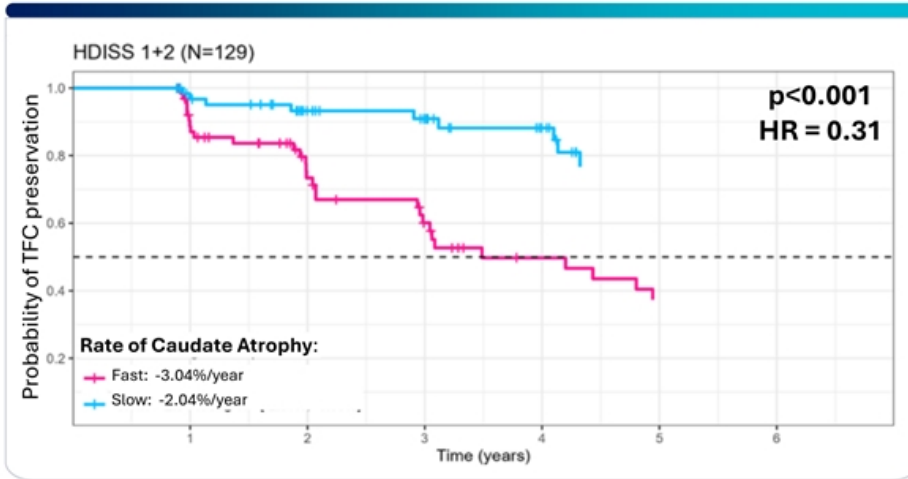


\* p<0.05, \*\*p<0.01, \*\*\*p<0.001, \*\*\*\*p<0.0001  
 mHTT: mutant huntingtin protein; wtHTT: wild-type huntingtin protein  
 From June 25, 2024 SELECT-HD disclosure

## WVE-003 leads to allele-selective mHTT reduction, correlating with slowing of caudate atrophy



## Internal analysis of natural history demonstrates 1% reduction in rate of caudate atrophy would delay onset of disability by $\geq 7.5$ -years

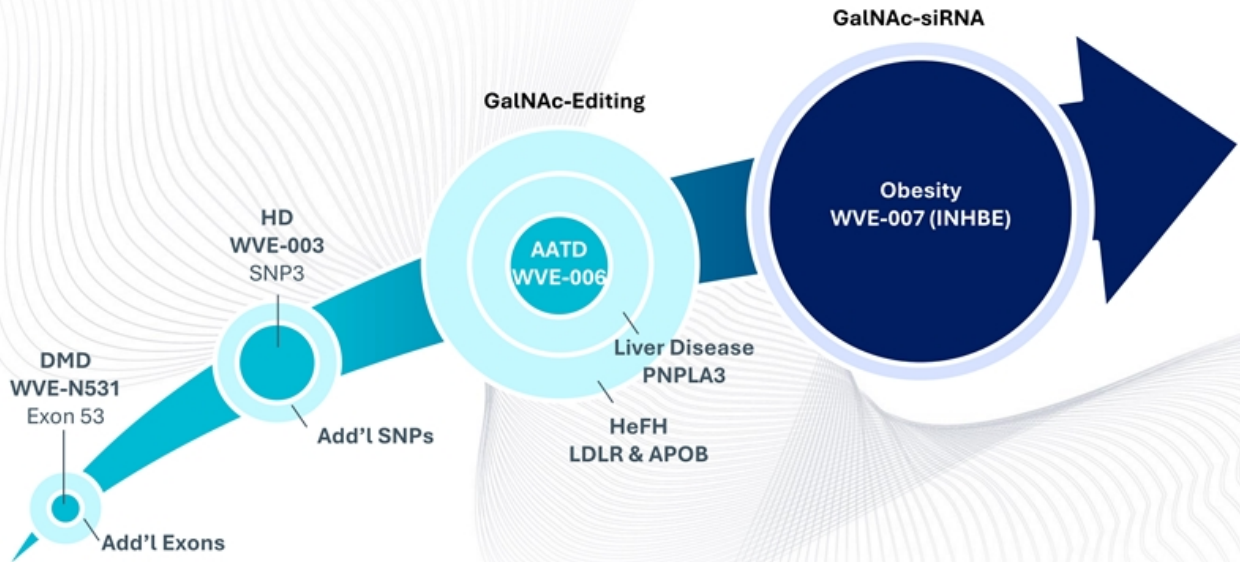


### WVE-003 next steps

- Planning underway, including key aspects of study design, for a global, potentially registrational Phase 2/3 study in adults with SNP3 and HD
- Using caudate atrophy as a primary endpoint

Expect to submit IND application for potentially registrational Phase 2/3 study in 2H 2025

# Poised for significant and sustained growth driven by editing and siRNA



Current pipeline has potential to treat well over 100 million patients in US and Europe



Note: Bubble size illustrative of size of total addressable US market (assuming 100% share of addressable patients)



## Anticipated upcoming milestones

<i>siRNA</i>	<i>RNA editing</i>		<i>Splicing</i>	<i>Allele-selective silencing</i>
<p><b>WVE-007 (INHBE) Obesity</b></p> <p><b>1Q 2025:</b> Initiate dosing in INLIGHT clinical trial</p> <p><b>2025:</b> Deliver proof-of-concept clinical data</p>	<p><b>WVE-006 AATD</b></p> <p><b>2025:</b> Deliver multidose data from RestorAATion-2</p>	<p><b>PNPLA3, LDLR, APOB, additional wholly owned programs</b></p> <p><b>2025:</b> Deliver new preclinical data from hepatic and extra-hepatic RNA editing programs</p> <p><b>2026:</b> Initiate clinical development of additional RNA editing programs</p>	<p><b>WVE-N531 (Exon 53) DMD</b></p> <p><b>1Q 2025:</b> Deliver 48-week FORWARD-53 data &amp; receive feedback from regulators on pathway to accelerated approval</p>	<p><b>WVE-003 (SNP3) HD</b></p> <p><b>2H 2025:</b> Submit IND application for potentially registrational Phase 2/3 using caudate atrophy as a primary endpoint</p>

**Well-capitalized with expected cash runway into 2027**



AATD: Alpha-1 antitrypsin deficiency; LDLR and APOB programs for treatment of heterozygous familial hypercholesterolemia; PNPLA3 program for treatment of genetically defined liver disease; DMD: Duchenne muscular dystrophy; HD: Huntington's disease; IND: Investigational New Drug



**WAVE**<sup>TM</sup>  
LIFE SCIENCES  

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Reimagine possible.

For questions contact:  
[investorrelations@wavelifesci.com](mailto:investorrelations@wavelifesci.com)