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): September 24, 2025

WAVE LIFE SCIENCES LTD.
(Exact name of registrant as specified in its charter)

Singapore	**001-37627**	**98-1356880**
(State or other jurisdiction of incorporation)	**(Commission File Number)**	**(IRS Employer Identification No.)**

7 Straits View #12-00, Marina One East Tower Singapore	**018936**
(Address of principal executive offices)	**(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 September 24, 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:

Exhibit No.	Description
99.1	Corporate Presentation of Wave Life Sciences Ltd. dated September 24, 2025
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: September 24, 2025

Exhibit 99.1

Wave Life Sciences

Corporate Presentation

September 24, 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
LIFE SCIENCES
3

Building a leading RNA medicines company

Novel RNA medicines platform (PRISM®)

- Multi-modal: RNA editing, RNAi, splicing, allele-selective silencing
- Potential best-in-class, clinically-validated oligonucleotide chemistry (PN, stereochemistry)

Novel approach designed to reduce fat, preserve muscle

WVE-007 in Obesity

Pioneering a novel RNA modality with RNA editing

WVE-006 in AATD

Potential best-in-class profile

WVE-N531 in DMD

Leadership in allele-selective silencing

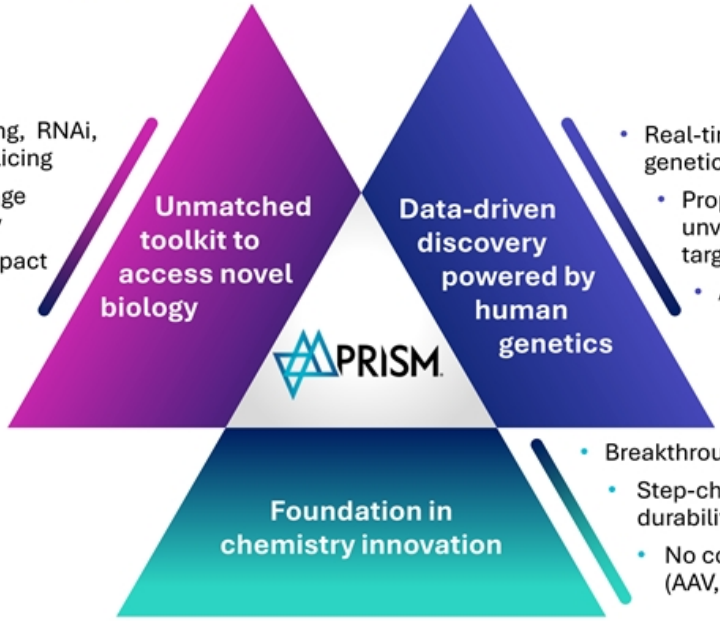
WVE-003 in HD

Strong and broad IP | **In-house GMP manufacturing** | **Well-capitalized with cash runway into 2027***

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
*Cash runway does not include potential future milestones or other payments under GSK collaboration

The powerful convergence of a validated, potential best-in-class platform with deep genetic insights

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



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

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

Robust, diversified RNA medicines pipeline including first-in-class RNA editing programs

AATD: Alpha-1 antitrypsin deficiency; DMD: Duchenne muscular dystrophy; HD: Huntington's disease; HeFH: heterozygous familial hypercholesterolemia

WVE-007
GalNAc-siRNA silencing

Obesity

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

WVE-007 is a GalNAc-siRNA that targets INHBE to treat obesity

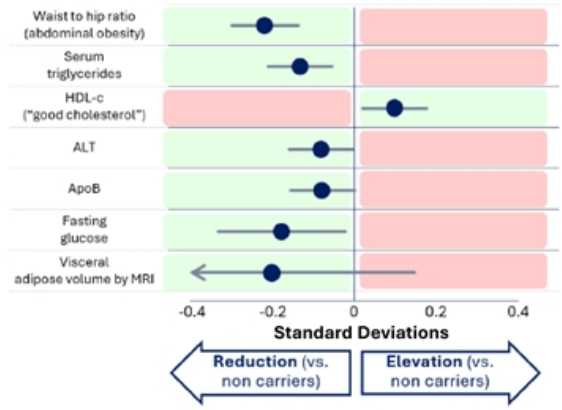
- Adults with obesity have higher risk for many serious health conditions, including heart disease, type 2 diabetes, and some forms of cancer[1]
- GLP-1s are current standard of care for weight loss, but impact is often limited by:
  - Loss of muscle mass[2]
  - Poor tolerability[3]
  - Frequent dosing[4]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

~175 million adults living with obesity in US and Europe

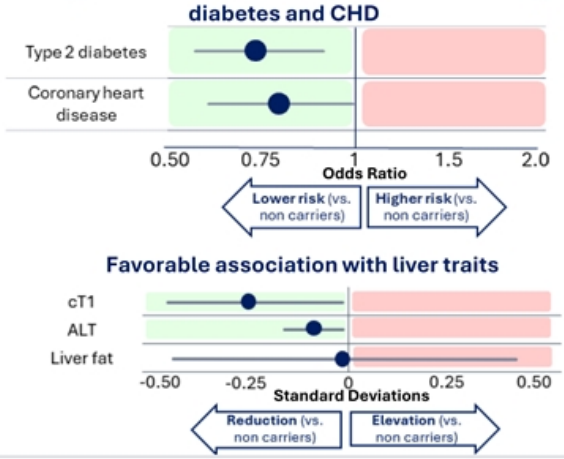
1. CDC.gov; 2. Sargeant, et al. 2019 Endocrinol Metab (Seoul) 34, 247; 3. Ghusn and Hurtado. 2024 Obesity Pillars 12, 100127; 4. Wegovy PI; 5. Leach, et al. 2023 Prime Therapeutics Claims Analysis; 6. Gasoyan, et al. 2024 *Obesity (Silver Spring)* 32, 486.; GalNAc-siRNA: GalNAc-conjugated small interfering RNA

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



Favorable association with liver traits

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

Akbari et al. Nat Commun. 2022 Aug 23;13(1):4844; Deaton et al. Nat Commun. 2022 Jul 27
Waist to hip ratio: waist to hip ratio adjusted for BMI; HDL-c: high-density lipoprotein cholesterol; ALT: alanine transaminase; ApoB: apolipoprotein B; cT1: corrected T1

INHBE GalNAc-siRNA expected to address health issues associated with pathogenesis of obesity associated metabolic disease

GalNAc-siRNA

Reduced release of hepatokine **Activin E**

Diminished activation of **ACVR1C** (ALK7) receptor in adipose tissue

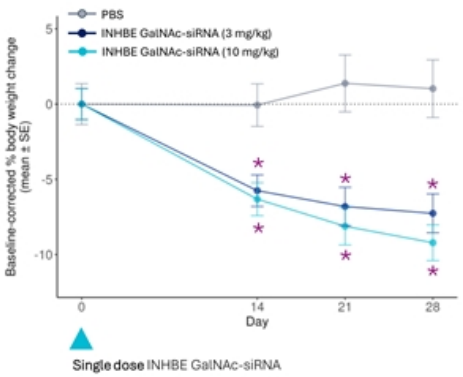
Increased adipose lipolysis shrinks adipocytes

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

1. Cell Reports (2018) 25, 1193–1203; 2. Biochemical Journal (2024) 481 547–564; 3. PNAS 2023 Vol. 120 No. 32 e2309967120; 4. Nat Commun 2022. https://doi.org/10.1038/s41467-022-32398-7; 5. Nat Commun 2022. https://doi.org/10.1038/s41467-022-31757-8

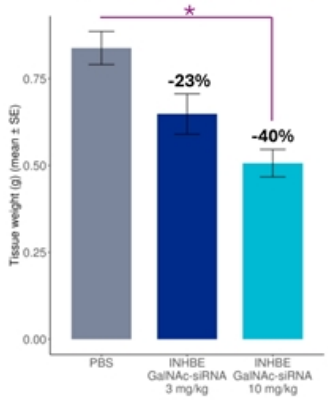
Single doses of INHBE GalNAc-siRNA result in dose-dependent weight loss and reduction of visceral fat, without affecting muscle mass, in DIO mice

Reduction in body weight



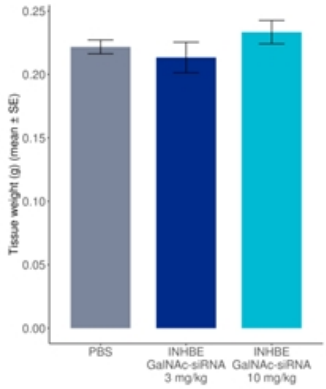
Reduction in visceral fat

Epididymal fat weight (Day 28)



No muscle loss

Quadricep weight (Day 28)

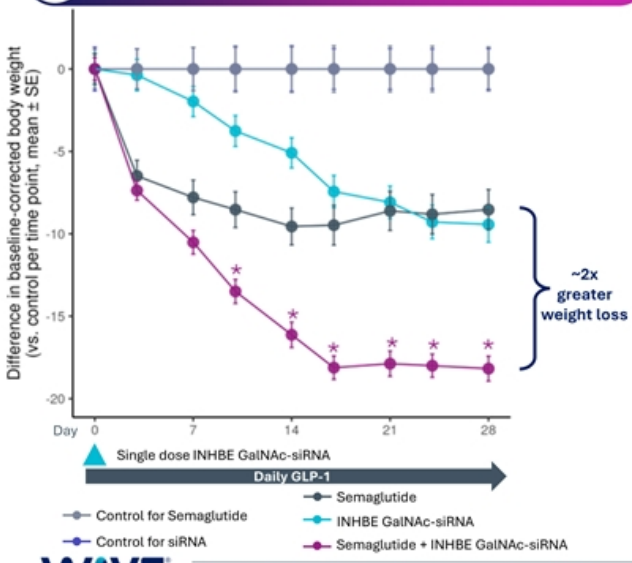


Preclinical data support INHBE GalNAc-siRNA as a single agent for healthy weight loss

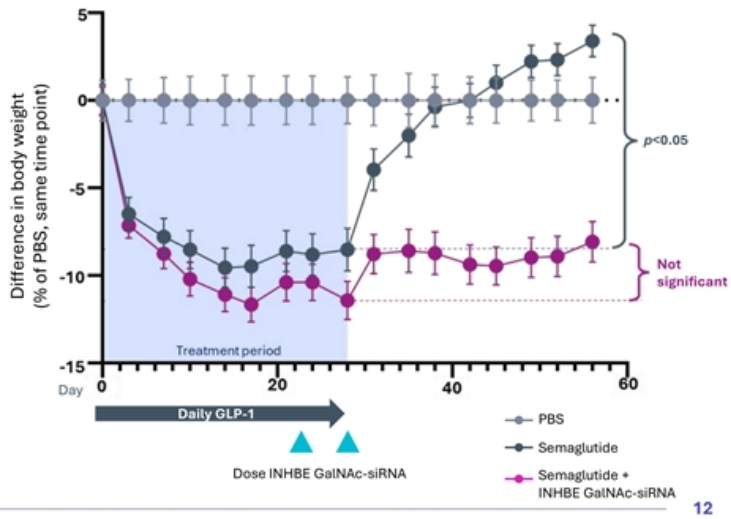
Data from preclinical studies conducted in DIO mice; Stats: (left, middle, right) Linear Mixed Effects ANOVA with post hoc comparisons of marginal treatment effects vs. PBS per timepoint (left) or per tissue (middle, right) * $p < 0.05$

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

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



Curtails weight regain after the cessation of GLP-1



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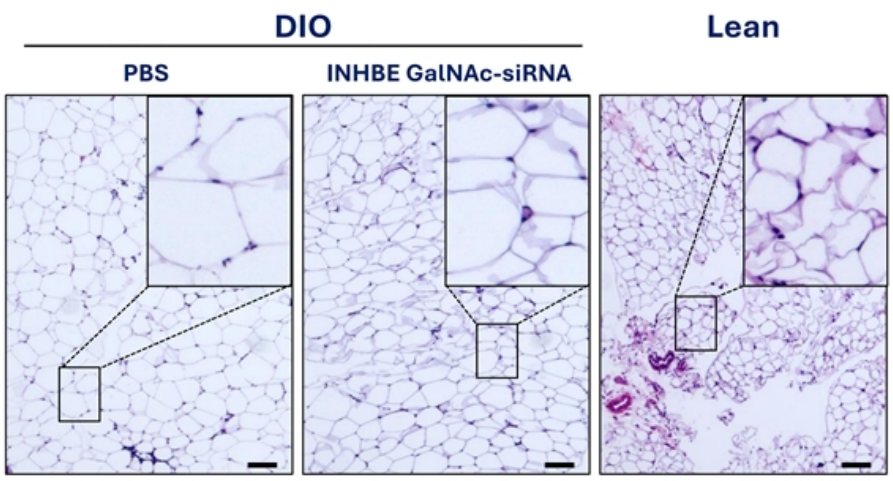
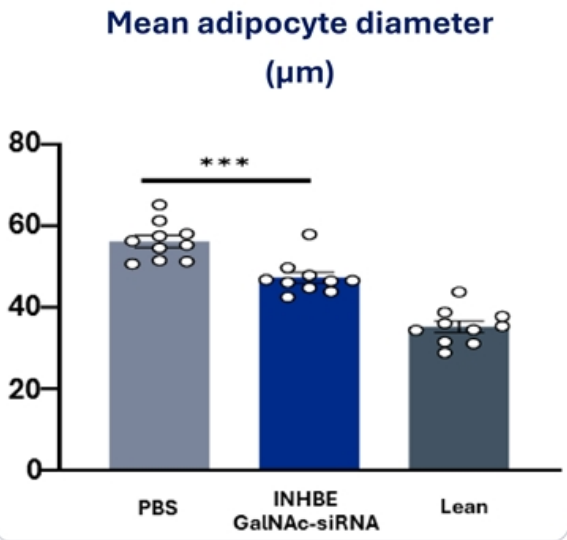
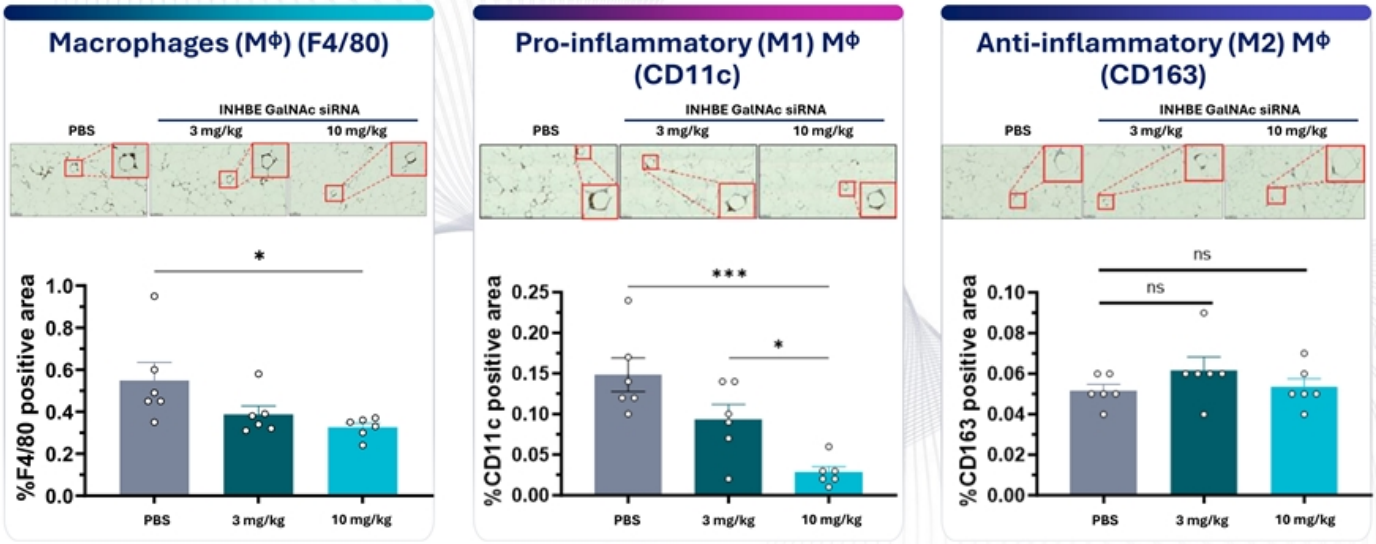
Data from preclinical studies conducted in DIO mice; Left: 10nmol/kg in mouse is equivalent to therapeutic dose of GLP-1s in human. Stats: Linear Mixed Effects ANOVA with post hoc comparisons of marginal treatment effects of Semaglutide vs. Semaglutide + INHBE GalNAc-siRNA per time point * $p < 0.05$;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

A single dose of INHBE GalNAc-siRNA led to shrinkage of adipocytes in DIO mice





A single dose of INHBE siRNA led to a lower inflammatory state of visceral adipose tissues in DIO mice, with strong suppression of pro-inflammatory M1 macrophages in visceral fat



Data presented at ADA Scientific Sessions June 2025
***p<0.001, *p<0.05, ns=non-significant

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

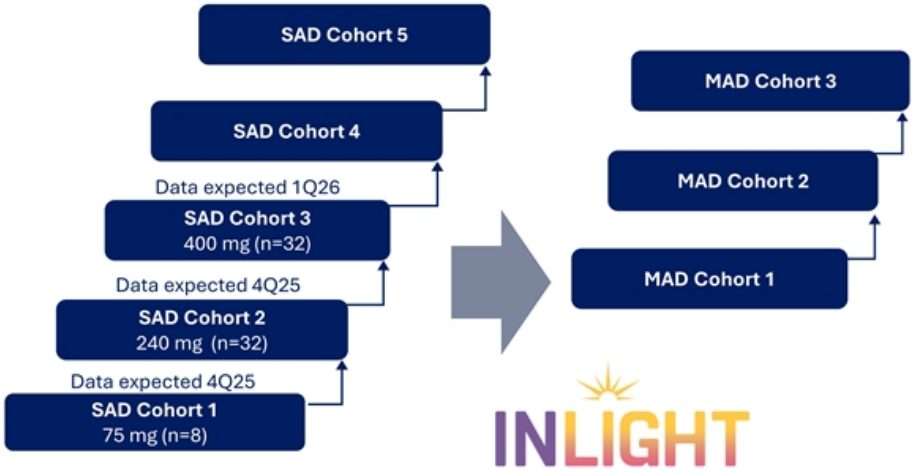
Monotherapy	*Add-on to GLP-1s*	*Maintenance*
WVE-007 as a single agent	**WVE-007 in addition to GLP-1 therapy**	**WVE-007 for patients who stop treatment with GLP-1 therapy**
✓ Weight loss similar to semaglutide with a single dose ✓ No loss of muscle mass ✓ Reduction in fat mass with preferential effect to the visceral fat ✓ Without suppressing food intake	When administered as an add-on to semaglutide: ✓ A single dose of Wave's INHBE GalNAc-siRNA doubled the weight loss observed with semaglutide alone	✓ Curtailed rebound weight gain upon cessation of semaglutide and prevention of weight cycling, which worsens the outcomes of various metabolic diseases

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

Randomized, double-blind, placebo-controlled (3:1) 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



INLIGHT expansion underway; IND application cleared by FDA

SAD: single-ascending dose; MAD: multi-ascending dose

WVE-006
RNA editing (AIMers)

Alpha-1 antitrypsin deficiency (AATD)

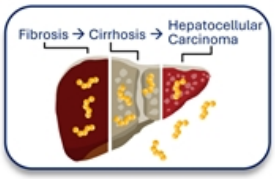
AATD impacts multiple organ systems and has limited treatment options

- AATD is a rare, inherited genetic disorder that is commonly caused by a G-to-A point mutation in the SERPINA1 gene
- Pi*ZZ genotype is leading cause of severe AATD, predisposing to progressive lung damage, liver damage or both
- Aggregation of mutant Z-AAT protein in hepatocytes and a lack of functional, wild-type M-AAT drives liver and lung disease, respectively

AATD Lung Disease

- **Treatment goal:** Minimize episodic exacerbations and associated damage
- Lung damage occurs during exacerbations that induce an inflammatory acute phase response, when more AAT protein is needed for protection
- **Weekly IV augmentation therapy is only treatment option**
  - No protective increase in AAT protein levels during acute phase response without additional IV infusions

AATD Liver Disease



- **Treatment goal:** Decrease Z-AAT protein
- Progressive liver disease results from Z-AAT-induced proteotoxic stress
- **No approved therapies**

~200K people in the US and Europe are homozygous for the Z allele (Pi*ZZ genotype)

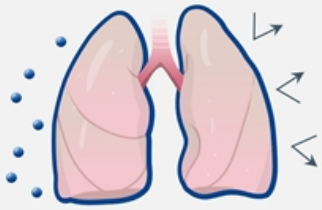
Strnad et al., 2020 *N Engl J Med* 382:1443-55; Blanco et al. 2017 *Int J Chron Obstruct Pulmon Dis* 12:561-69

WVE-006: Potential first-in-class, convenient therapy for AATD that addresses both liver and lung manifestations of disease

WVE-006 (RNA editing)

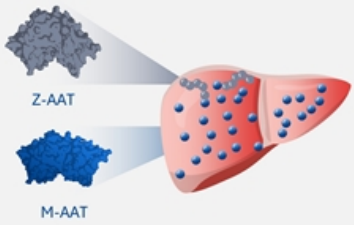
- **Proprietary chemistry**
- **Subcutaneous injection (GalNAc)**
- **Highly specific (no bystanders)**
- **Infrequent dosing**

Restore circulating M-AAT and physiological AAT protein production



M-AAT reaches lungs to protect from proteases and **reduce risk of lung disease**

Reduce Z-AAT protein aggregation in liver



RNA correction replaces mutant Z-AAT protein with wild-type M-AAT protein to **reduce risk of liver disease**

Strnad et al., 2020 *N Engl J Med* 382:1443-55; Stoller et al., 1993 Alpha-1 Antitrypsin Deficiency GeneReviews.

RestorAATion-1 clinical trial in healthy volunteers complete, RestorAATion-2 clinical trial in Pi*ZZ patients ongoing

RESTORAATION

RestorAATion-1: Healthy Volunteers | **RestorAATion-2: AATD Patients**

SAD → MAD Multi-dosing complete

Up to seven doses in multi-dose portion

SAD Cohort 3	**MAD Cohort 3**
SAD Cohort 2 400 mg	**MAD Cohort 2** 400 mg; 1x/month
SAD Cohort 1 200 mg	**MAD Cohort 1** 200 mg Q2W

Study key objectives

Safety and tolerability	Pharmacokinetics	Serum M-AAT levels

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HV: healthy volunteer; SAD: single-ascending dose; MAD: multi-ascending dose

RestorAATion-2: WVE-006 continues to be safe and well tolerated

TEAE Category	200 mg SAD N=8 n (%)	200 mg MAD N=8 n (%)	400 mg SAD N=8 n (%)
Any TEAE	6 (75.0)	5 (62.5)	5 (62.5)
Mild	2 (25.0)	0	1 (12.5)
Moderate	4 (50.0)	5 (62.5)	4 (50.0)
Severe	0	0	0
Any drug-related TEAE	1 (12.5)	2 (25.0)	3 (37.5)
Mild	1 (12.5)	1 (12.5)	1 (12.5)
Moderate	0	1 (12.5)	2 (25.0)
Severe	0	0	0
Any serious TEAE	0	0	0
Any TEAE leading to discontinuation	0	0	0
Any TEAE leading to death	0	0	0

- No SAEs, discontinuations or withdrawals due to TEAEs
- All TEAEs were mild to moderate in severity
- No treatment-related, clinically relevant changes in labs, ECG, or vital signs

Data as of August 26, 2025
SAD: single ascending dose MAD: multi-ascending dose

WVE-006 achieved key treatment goals of restoring MZ phenotype

Total AAT levels exceeded 11 µM, production of wild-type M-AAT of greater than 50%, restored physiological AAT production

Total AAT of up to ~13 µM

Protein levels associated with lower risk of AATD liver and lung diseases

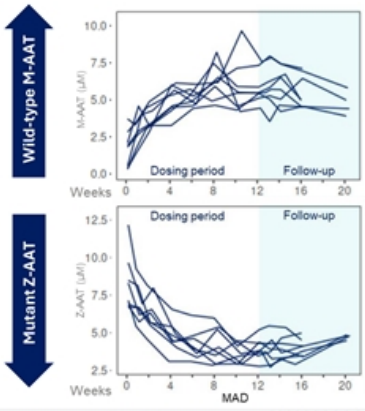
200 mg MAD Cohort

11.9 µM
Total AAT

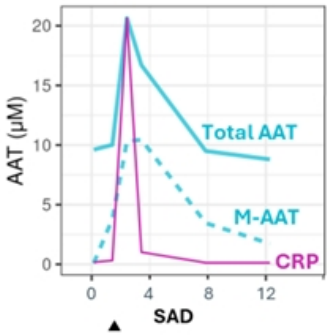
400 mg SAD Cohort

12.8 µM
Total AAT

Wild-type M-AAT protein of 64% of total



Total AAT reached 20.6 µM during acute phase response

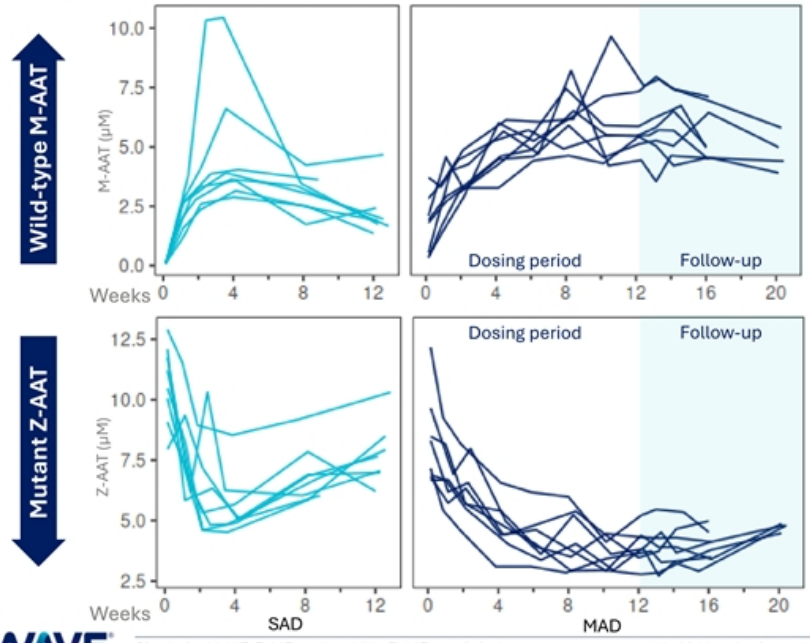


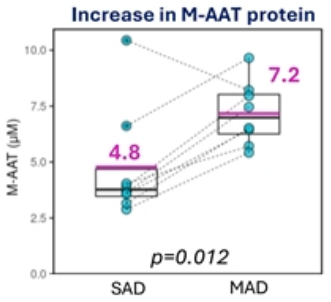
Acute phase response due to a kidney stone

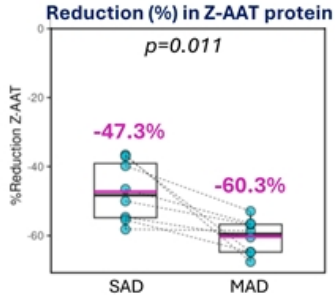
Circulating M-AAT, Z-AAT, and total (M + Z) AAT protein in the serum were measured by highly selective and sensitive LC-MS/MS assays (LLOQ: 0.096 µM (M), 0.029 µM (Z)) and reported as mean participant SAD and MAD maximums

200 mg cohort: Consistent M-AAT increase and Z-AAT decrease observed, MAD significantly enhances effects versus SAD

Increases in neutrophil elastase inhibition from baseline confirmed production of functional M-AAT





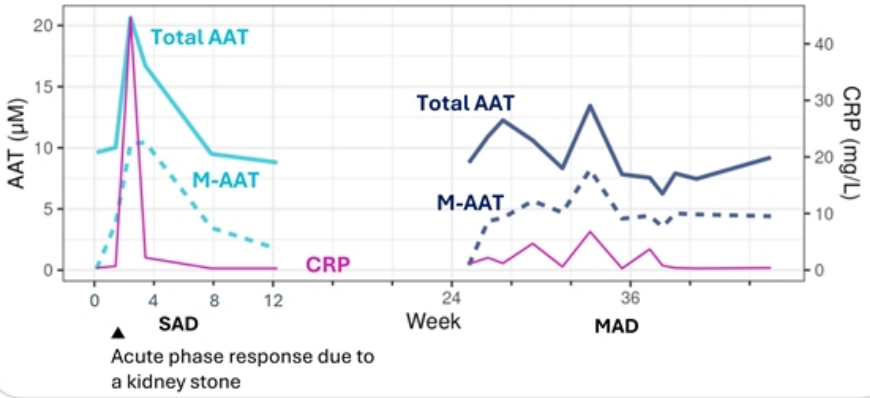


Circulating M-AAT, Z-AAT, and total (M + Z) AAT protein in the serum were measured by highly selective and sensitive LC-MS/MS assays (LLOQ: 0.096 µM (M), 0.029 µM (Z)) and reported as mean participant SAD and MAD maximums
Right: black line represents median

First-ever demonstration of ability to restore physiological serum AAT production; total AAT reached 20.6 µM during acute phase response

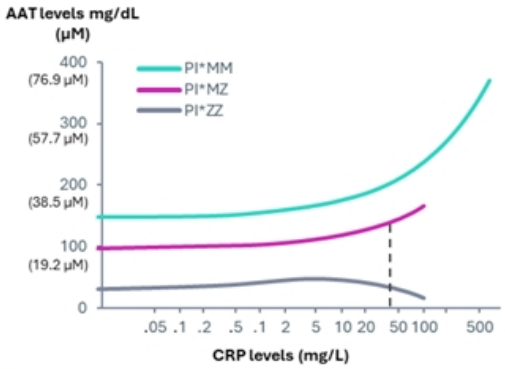
Pi*ZZ patients have a reduced capacity to produce AAT protein during an acute phase response

Following WVE-006 200 mg single dose, total AAT and M-AAT increased significantly in one patient during an acute phase response



▲ Acute phase response due to a kidney stone

Published data[1] on CRP levels and AAT levels across different genotypes



AAT response in Pi*ZZ participant treated with WVE-006 mirrors Pi*MZ phenotype

1 - Sanders et al., J COPD, 2018 CRP: C-reactive protein

Circulating M-AAT, Z-AAT, and total (M + Z) AAT protein in the serum were measured by highly selective and sensitive LC-MS/MS assays (LLOQ: 0.096 µM (M), 0.029 µM (Z)) and reported as mean participant SAD and MAD maximums

Data from single dose cohorts support potential to further increase serum AAT levels with 400 mg multidose cohort and monthly dosing

400 mg SAD Cohort

12.8 µM
Total AAT

5.3 µM
M-AAT

47.2%
Circulating M-AAT

49.0%
Decrease in Z-AAT

As compared to 200 mg SAD Cohort

- **Increases in M-AAT protein**
- **Greater % of M-AAT protein**
- **Greater reductions in Z-AAT protein**

400 mg multidose cohort ongoing with monthly dosing; clinical data expected in 1Q 2026

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Circulating M-AAT, Z-AAT, and total (M + Z) AAT protein in the serum were measured by highly selective and sensitive LC-MS/MS assays (LLOQ: 0.096 µM (M), 0.029 µM (Z)) and reported as mean participant SAD and MAD maximums

Unlocking wholly-owned RNA editing pipeline

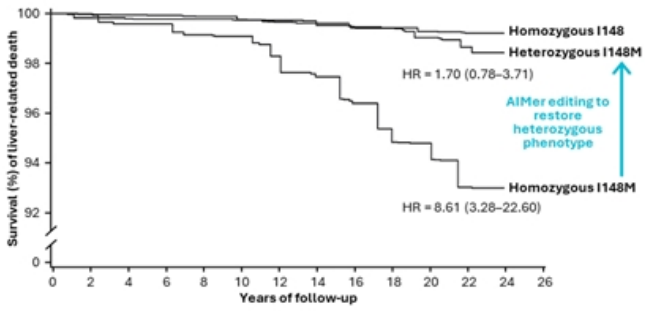
WVE-006: RNA editing capability translating in clinic

- Efficient and consistent RNA editing
- Restore dynamic physiological response
- Durability of effect supporting monthly or less frequent dosing
- Safe and well-tolerated at top dose tested

GalNAc-RNA Editing: PNPLA3

Genetically defined liver disease

Patient population: ~9 million



Expect to share updates from emerging pipeline at Research Day in October 2025

WVE-N531
Splicing

Duchenne muscular dystrophy

WAVE LIFE SCIENCES

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

Duan, D. et al. 2021 Nat Rev Dis Primers 7, 13; Muscular Dystrophy Association; Aartsma-Rus, et al. 2009 Hum Mutat 30, 293.

FORWARD-53 48-week clinical trial results: WVE-N531's potential best-in-class profile for boys amenable to exon 53 skipping

- Statistically significant and clinically meaningful improvement (3.8s) in Time-to-Rise vs. natural history; functional benefits on other measures including NSAA
- Statistically significant reductions in muscle fibrosis and CK; driven by decreases in inflammation and necrosis; transition from regenerative to mature muscle
- Consistent dystrophin expression averaged 7.8% between 24 and 48 weeks, with 88% of boys above 5% dystrophin; delivery to both myofibers and muscle stem cells
- WVE-N531 remains safe and well-tolerated with no Serious Adverse Events

NDA filing for accelerated approval with monthly dosing planned for 2026

Muscle content-adjusted dystrophin

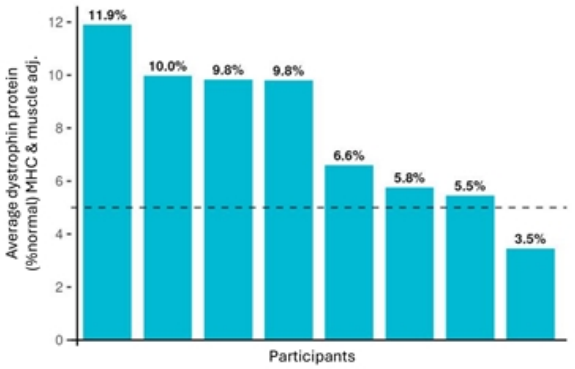
Potential best-in-class, consistent dystrophin expression

Potential best-in-class exon skipping and dystrophin

	Average: 24 and 48-week
Mean exon skipping induced	**54%** (95% CI: 46-63%)
Mean dystrophin expression[1]	**7.8%** (95% CI: 5.4-10.3%)

61-day tissue half-life supports monthly dosing

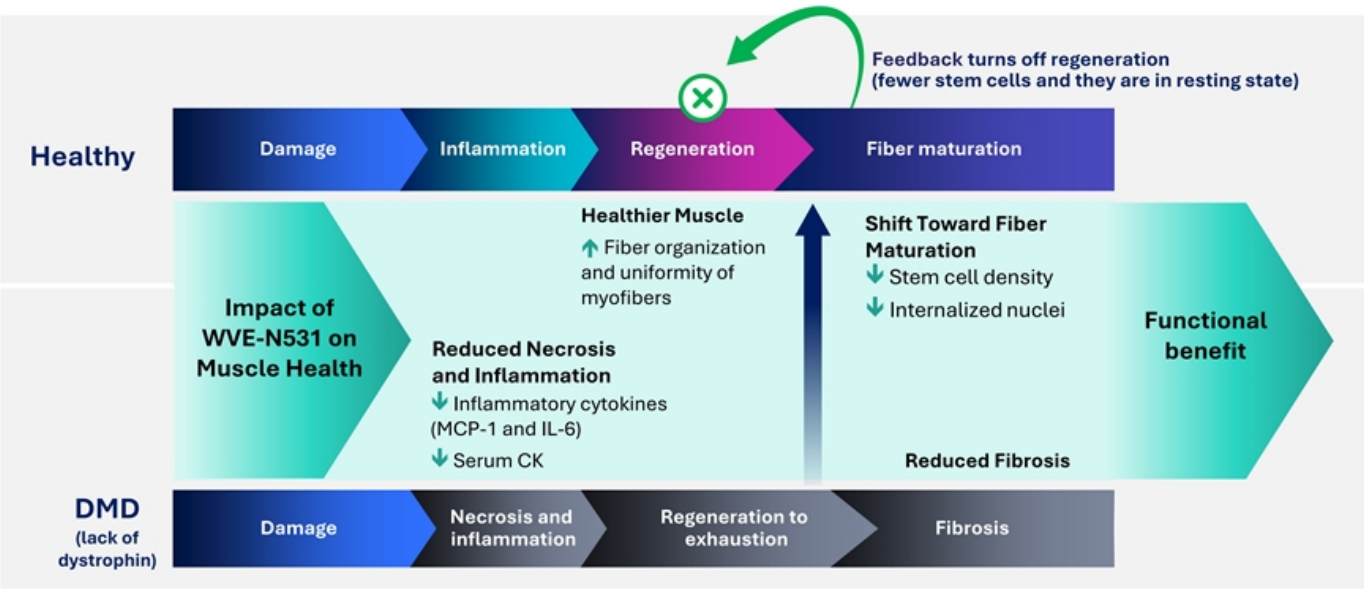
Consistently exceeded levels associated with milder Becker phenotype



88% of boys achieved greater than 5% average dystrophin

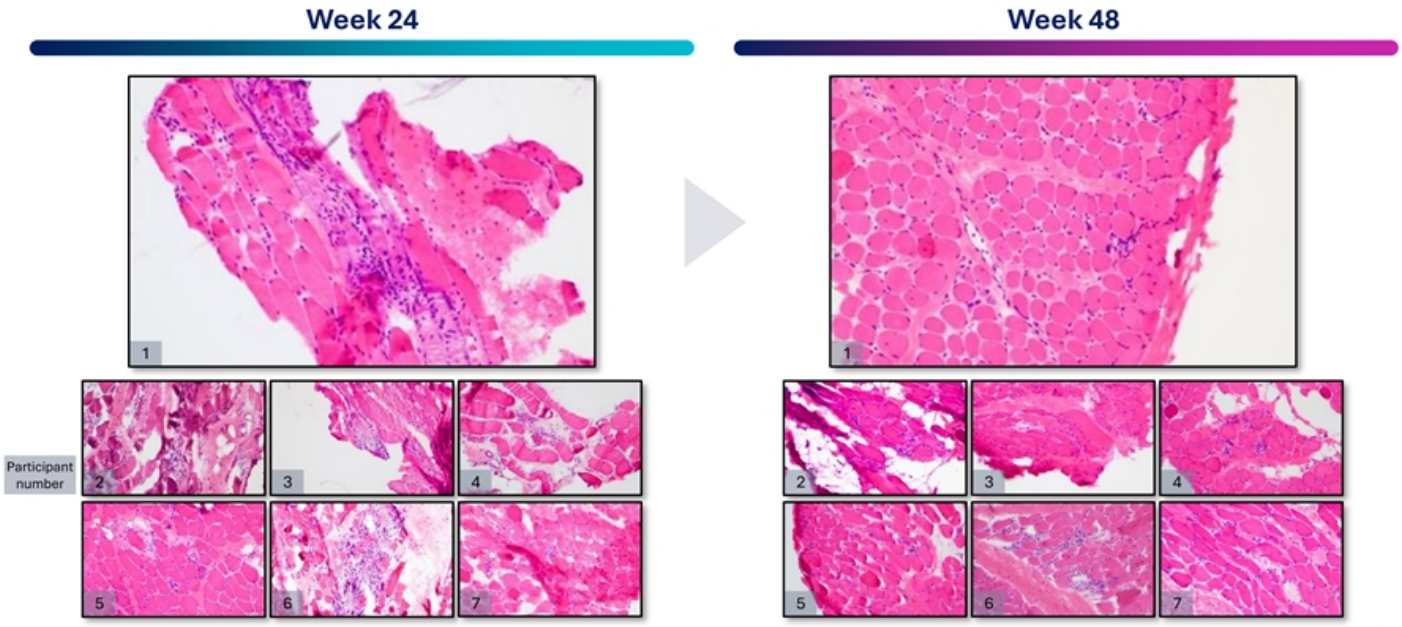
Left: 8 participants had muscle biopsies at week 24 and week 48, averages for these n=8 are summarized; Dystrophin measured by western blot (AB15277). Dystrophin expression was quantified from two isoforms; [1]MCA: muscle content-adjusted (MHC-normalized dystrophin/(total myofiber area/total area of biopsy section); Right: Average between 24 and 48 weeks.

WVE-N531 appears to shift dystrophic muscle towards healthy muscle



Cardone et al., 2023 Acta Neuropathol Comm

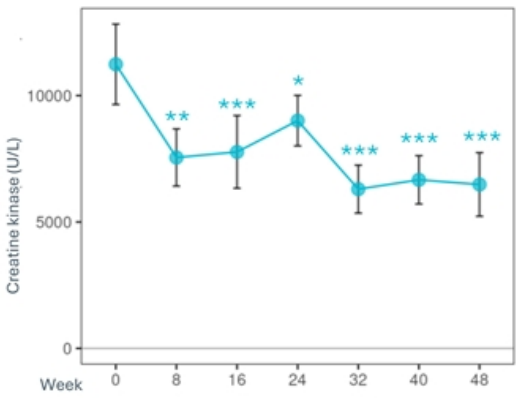
Evidence of reversal of fibrosis across majority of participants



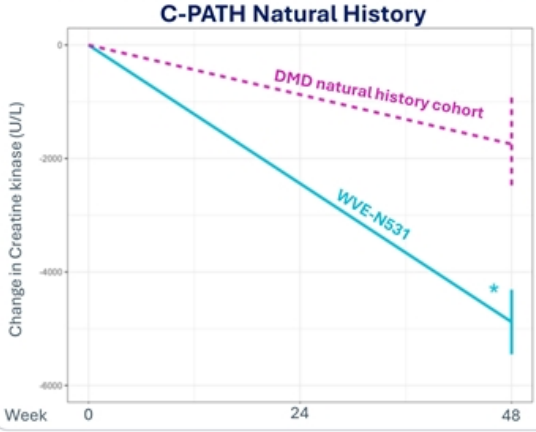
H&E-stained sections (20X magnification). Seven paired biopsies available from week 24 and 48 for histopathology.

Statistically significant reductions in creatine kinase (CK) as compared to baseline and natural history

~50% CK reduction from baseline at 48 weeks



Statistically significant reduction in CK vs. C-PATH Natural History

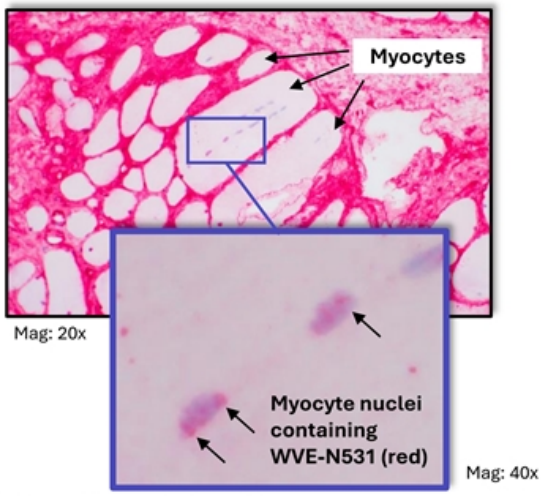


Decreased CK to levels observed in milder DMD individuals

*p<0.05, ** p<0.01, ***p<0.001; Data are mean ± SE
Left: n=11; right: n=10 (all ambulatory)

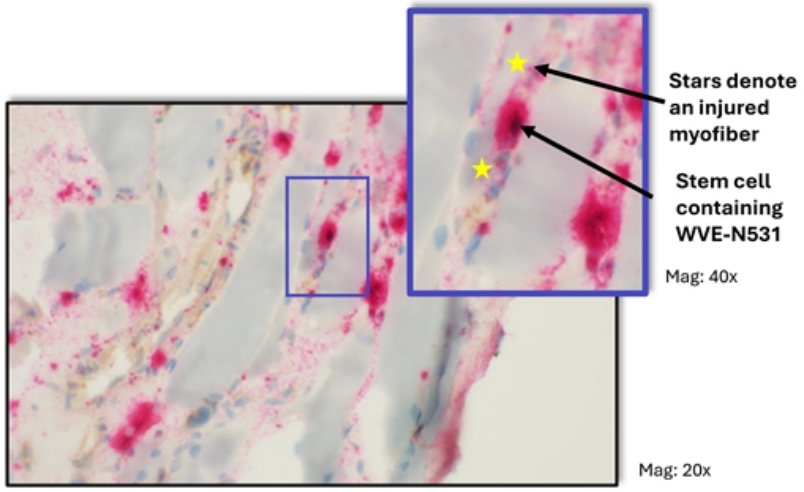
WVE-N531 is the only DMD therapeutic to show uptake in myogenic stem cells

WVE-N531 uptake in myofiber nuclei



In-situ hybridization for WVE-N531

WVE-N531 uptake in myogenic stem cells

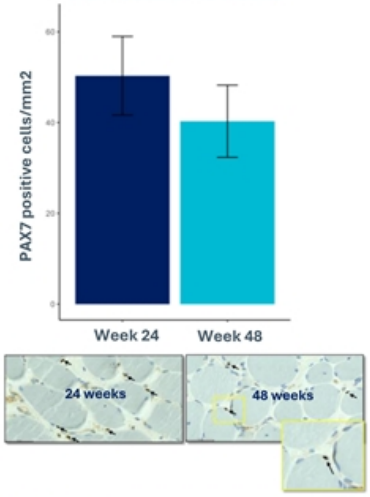


Dual staining utilizing in-situ hybridization for WVE-N531 and PAX7 immunohistochemistry for stem cells

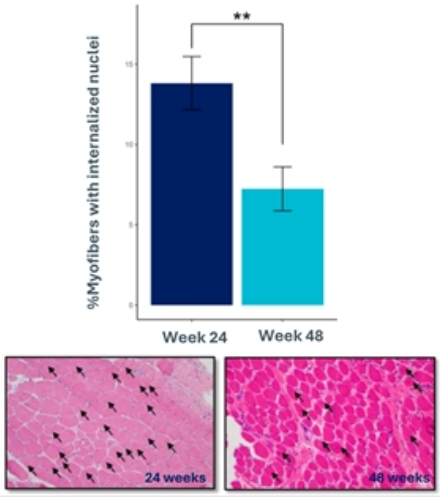
Changes to key cell populations in muscle and decrease in systemic inflammatory cytokines, suggesting transition to healthier muscle

Progression of regenerative to mature state of muscle tissue

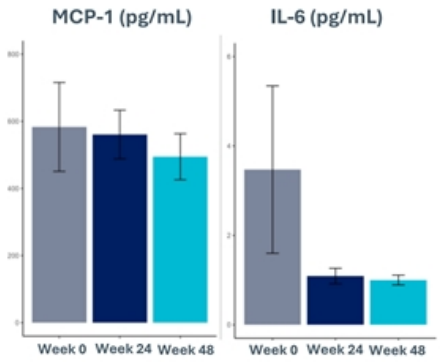
~20% change in density of myogenic stem cells at 48 weeks



Significant decrease (~48%) in internalized nuclei at 48 weeks



Decrease in serum MCP-1 and IL-6 suggests reduction in inflammation with treatment

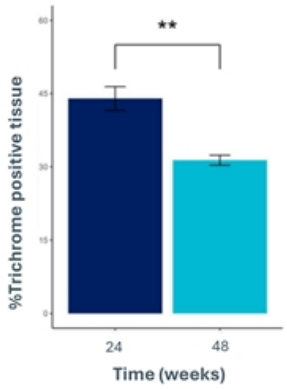


Left: NS; Data are mean ± SE (of n = 9); PAX7-positive cells/mm2 quantified using Pax7 immunohistochemistry (IHC) with HALO. Middle: **p<0.01 (two-tailed Welch's test); Data are mean ± SE; Internalized nuclei quantified using 6 random fields in H&E stained sections. Right: Data are means ± SE

First evidence of reversal of fibrosis with exon skipping treatment

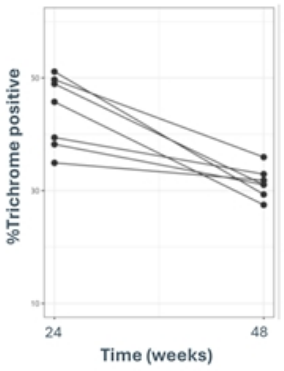
Mean fibrotic muscle declined 28.6% at 48W

(n = 7)

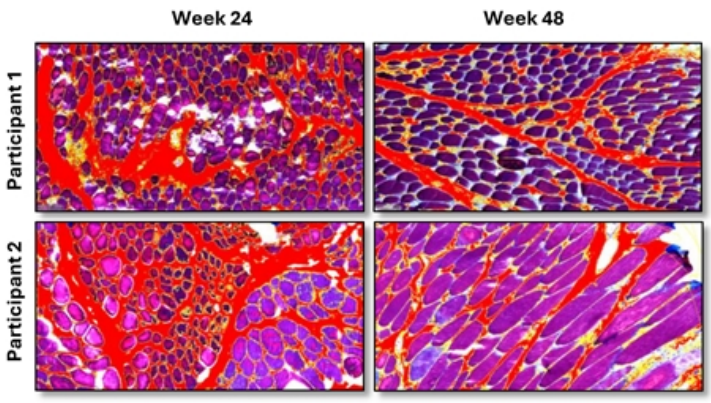


% Fibrotic muscle declined by individual

(n = 7)



Week 48 showed improved organization and uniformity of myofibers

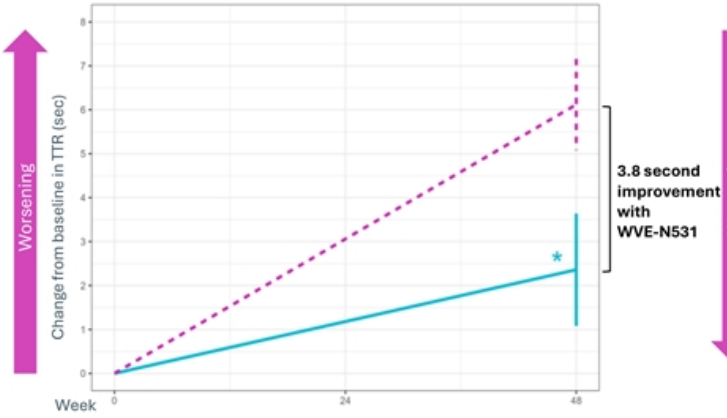


Right: Magnification 5X; fibrosis stained with trichrome stain and analyzed with HALO; ** p<0.01; Data are mean ± SE

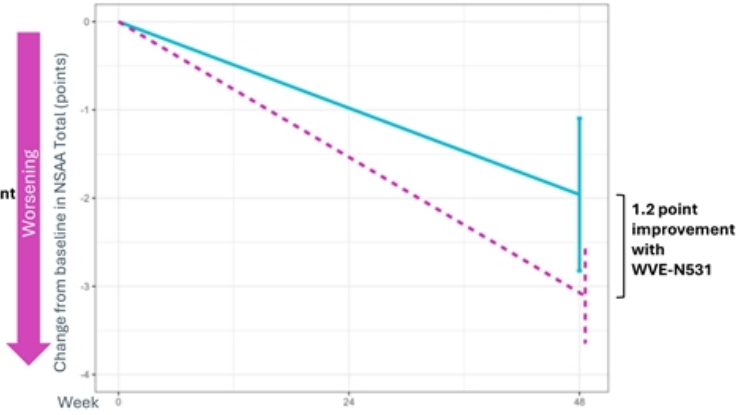
Statistically significant and clinically meaningful slowing of disease progression as measured by TTR

Functional benefits on other measures including NSAA

Mean change in time-to-rise (TTR)



Mean change in NSAA



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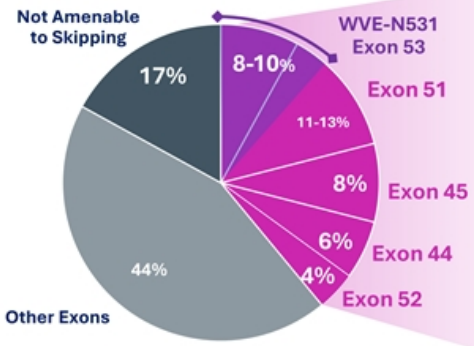
Left: Minimal Clinical Important Difference (MCID) for TTR: 1.4 sec based on method from McDonald 2013; *p<0.05; Data are mean ± SE
Right: NSAA: North Star Ambulatory Assessment; data are mean ± SE

Wave DMD portfolio addresses >$2.4 billion opportunity in US alone with potential for expansion

Wave portfolio addresses up to 40% of the DMD population



Multiple drivers of value with Wave portfolio

Increasing exon skipping treatment rates

- ~40–50% of exon 53, 51, 45 skipping amenable boys remain untreated today
- No exon skipping therapies available for exons 44 and 52
- Advantages over gene therapy (endogenous dystrophin, favorable safety)

Switches from marketed exon skipping therapies

- Monthly dosing, superior dystrophin profile, and improvements in muscle health

Expansion to ex-US markets

- Potential best-in-class exon skipping profile where no exon skipping therapies are available

Aartsma-Rus, et al. 2009 Hum Mutat

Regulatory update and exon skipping franchise derisked

FORWARD-53

- All participants are enrolled in the ongoing open-label FORWARD-53 extension trial receiving monthly doses of WVE-N531
- Expanding FORWARD-53 to include additional boys on monthly dosing regimen

REGULATORY

- FDA feedback confirmed that the accelerated approval pathway using dystrophin expression as a surrogate endpoint remains open
- Based on FDA feedback and the 48-week data, Wave intends to submit an NDA in 2026 to support accelerated approval of WVE-N531 with monthly dosing
- Wave will continue to engage the Agency with the new 48-week data, including functional outcomes, and its planned global confirmatory trial of WVE-N531

EXON SKIPPING FRANCHISE

- Expect to submit multiple CTAs for other exon skipping candidates in 2026
- Candidates all use Wave's potential best-in-class chemistry; and preclinical data suggest a potential best-in-class exon skipping franchise

WVE-003
Allele-selective silencing

Huntington's Disease

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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 of wild-type huntingtin protein (wtHTT)

>200,000 patients with HD across all disease states

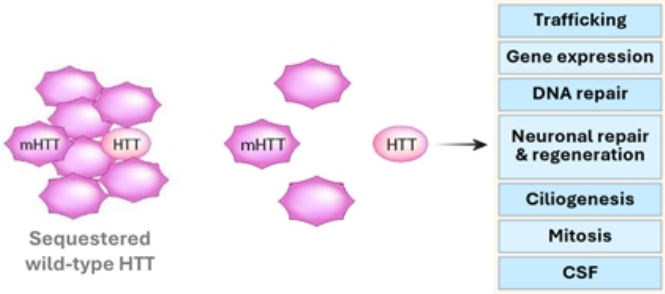
Pre-Symptomatic HD	Symptomatic HD
(~160K in US and Europe)	(~65K in US and Europe)

Sources on wtHTT: 1. Leavitt 2006 2. Cattaneo 2005 3. Kumar 2016 4. Franco-Iborra 2020 5. Hamilton 2015 6. Ochaba 2014 7. Wong 2014 8. Rui 2015 9. Caviston 2007 10. Twelvetrees 2010 11. Strehlow 2007 12. Milnerwood 2010 13. Smith-Dijak 2019 14. Tousley 2019 15. Zhang 2018 16. McAdam 2020 17. Altar 1997 18. Zuccato 2001 19. Gauthier 2004 20. Ferrer 2000 21. Baquet 2004 22. Liu 2011 23. Karam 2015

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

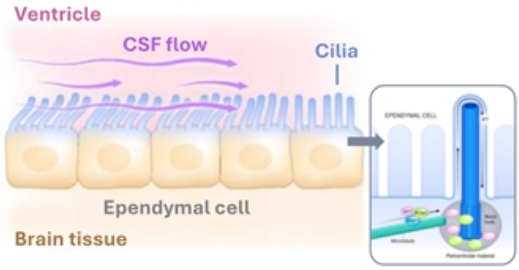
Mutant HTT has a detrimental effect on wild-type HTT function

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



Wild-type HTT is crucial for cilia health

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



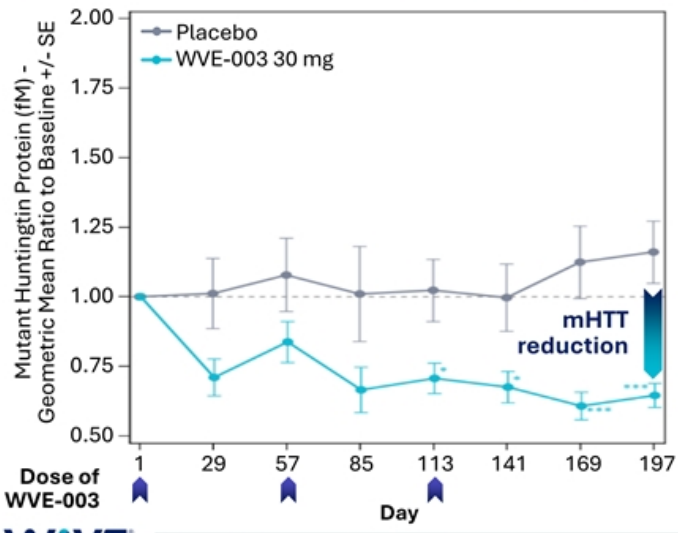
Only an allele-selective approach can ameliorate both loss-of-function and gain-of-function disruptions driven by mHTT

Saudou & Humbert 2016 Neuron; Cason et al., 2022 Nat Rev Cell Biol; Laundos et al., 2023 Front Cell Dev Biol; Kaliszewski et al., 2015 Cell Death Diff; Keryer et al., 2011 J Clin Invest Khoshnan & Patterson, 2011. Neurobiol Dis; Pogoda et al., 2021 Curr Med Chem; Hsiao et al., 2013 Hum Mol Genet

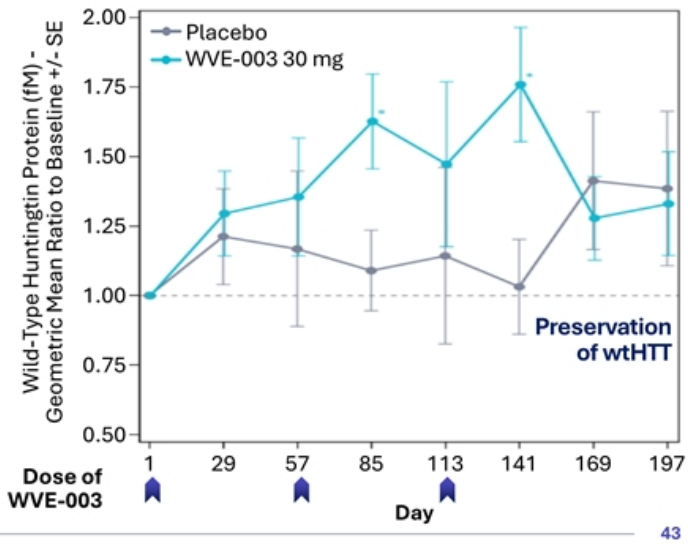
Allele-selective CSF lowering of mutant HTT protein of up to an industry leading 46% with three doses of WVE-003 and preservation of wild-type HTT

Durability of mHTT reductions supports potential for quarterly dosing intervals

Mutant HTT protein levels in CSF



Wild-type HTT protein levels in CSF



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* 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

Allele-selective mHTT Silencing with wtHTT Preservation

- mHTT reduction of up to 46% vs. placebo
- wtHTT preserved/increased throughout study

Slowing of Caudate Atrophy

- WVE-003 trended towards less caudate atrophy vs. placebo (4.68% vs. 5.10%, not significant)

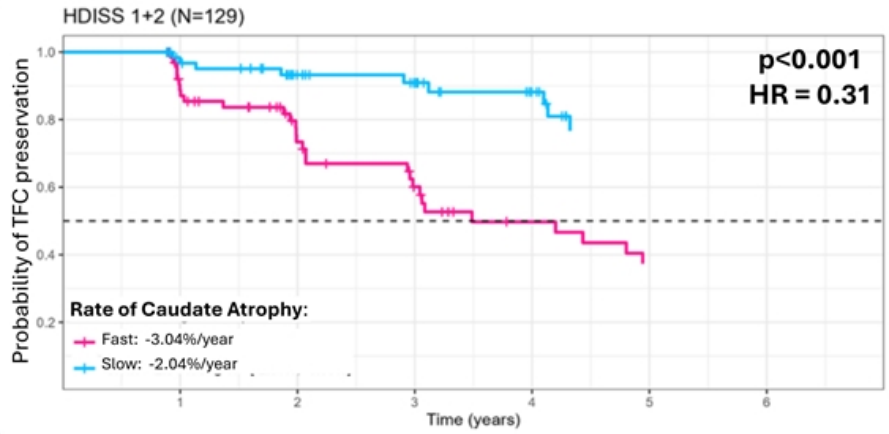
Functional Benefit

- Caudate atrophy is an imaging biomarker expected to predict clinical outcomes, including clinically meaningful worsening of Total Motor Score (TMS)

Greater allele-selective mHTT reduction correlated with the slowing of caudate atrophy at 24 weeks (R = -0.50, p=0.047)

Liu et al., 2023 Brain Comm

Analysis of natural history demonstrates that absolute reduction of 1% in rate of caudate atrophy is associated with delay of onset of disability by ≥7.5-years



WVE-003 next steps

- Preparation ongoing 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

Wave internal analysis; TRACK-HD and PREDICT-HD are longitudinal HD natural history studies that include MRI brain imaging, clinical outcome assessments. Paulson et al., Neurosci.2014, Tabrizi et al., Lancet Neurol 2009, Tabrizi et al., Lancet Neurol 2012, Tabrizi et al., Lancet Neurol. 2013
IND: Investigational New Drug TFC: Total Functional Capacity

Reimagining RNA medicines

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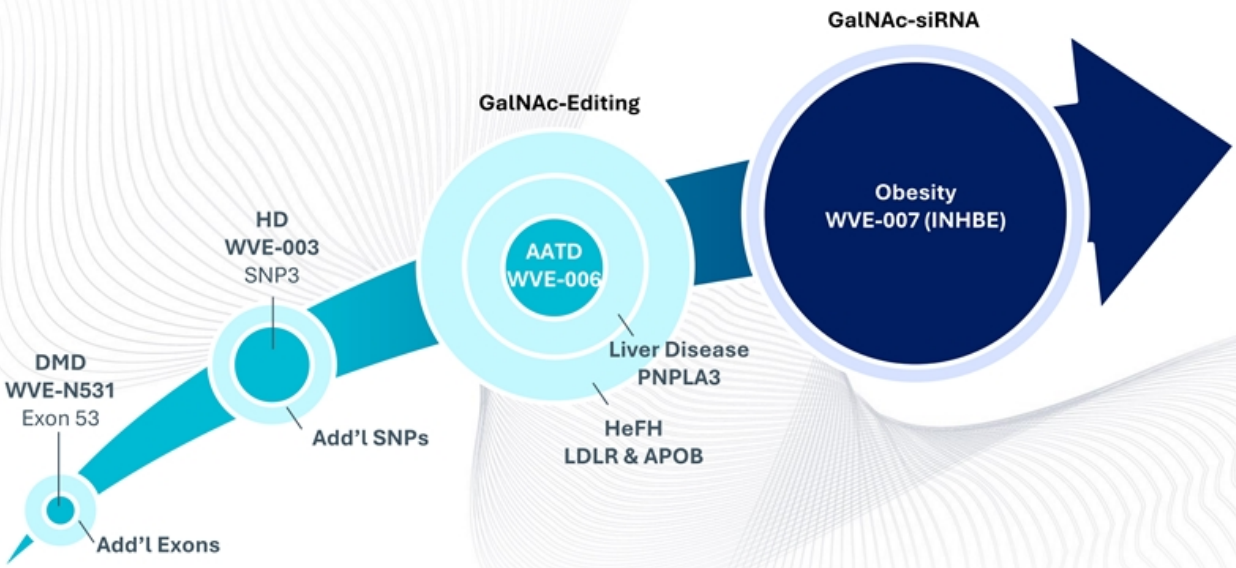
Poised for significant and sustained growth driven by editing and siRNA



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

siRNA	*RNA editing*	*Emerging Pipeline*	*Splicing*	*Allele-selective silencing*
WVE-007 (INHBE) Obesity	**WVE-006 AATD**	**Wholly owned RNA editing and siRNA programs**	**WVE-N531 (Exon 53) DMD**	**WVE-003 (SNP3) HD**
4Q 2025: Deliver data from the expanded Cohort 2 (240 mg) as well as data from Cohort 1 (75mg) **1Q 2026** Deliver data from Cohort 3 (400 mg)	**1Q 2026:** Deliver data from the 400 mg multidose cohort	**2025:** Deliver new preclinical data from hepatic and extra-hepatic programs **2026:** Initiate clinical development of additional programs	**2026:** Submit NDA to support accelerated approval of WVE-N531 with monthly dosing Submit CTAs for other exon skipping candidates	**2H 2025:** Submit IND application for potentially registrational Phase 2/3 using caudate atrophy as a primary endpoint

Research Day analyst event planned for October 29, 2025

AATD: Alpha-1 antitrypsin deficiency; DMD: Duchenne muscular dystrophy; HD: Huntington's disease; IND: Investigational New Drug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investorrelations@wavelifesci.com