



SPUR THERAPEUTICS

Toward More™

August 2025

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Imagine a world where a single dose of genetic medicine could truly alter the course of a disease—and the course of people's lives.

This is the vision that spurs us forward. That drives us on our mission to redefine what gene therapy can do, so we can bring its transformative impact to more people.

Moving toward life-changing therapies, and brighter futures.

Toward more.

Toward tailored gene therapies

Where many first-generation therapies fall short

- Safety
- No improvement on standard of care
- Commercial uptake

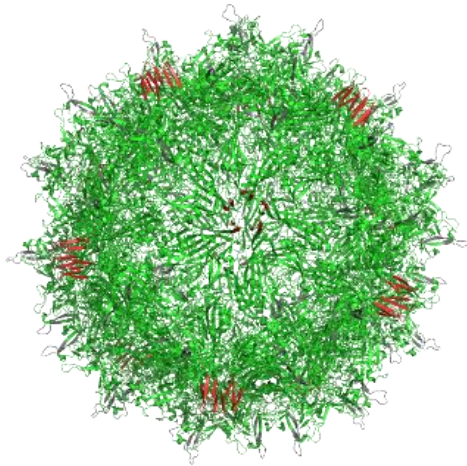
Tailored gene therapies offer more

- Optimized for specific diseases to drive higher efficacy at lower doses
- Improved outcomes, including changing the course of the disease
- Potential to impact more prevalent conditions

Optimizing every component of our product candidates to realize outsized clinical results at lower doses

Selective capsids

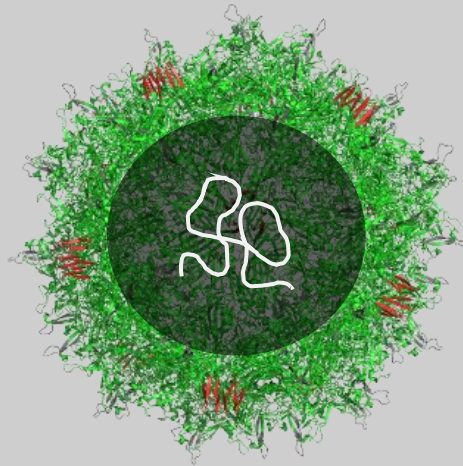
Improved tissue targeting, more efficient transfers of genetic material, and reduced immunogenicity



+

Optimized genomes

Promoter design and codon optimization improve tissue selectivity and advance protein synthesis



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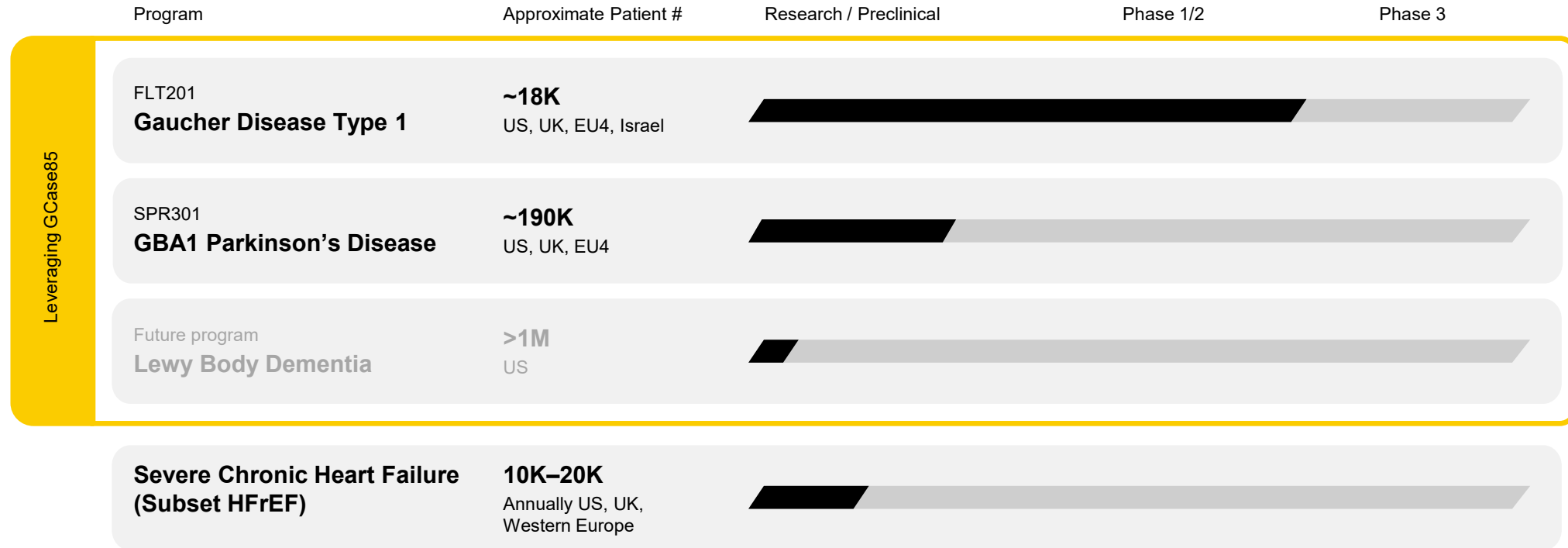
Engineered therapeutic gene

Increased half-life, stability, and activity, and more precise targeting of the therapeutic protein



Come together to create our product candidates

Moving from rare to more prevalent conditions

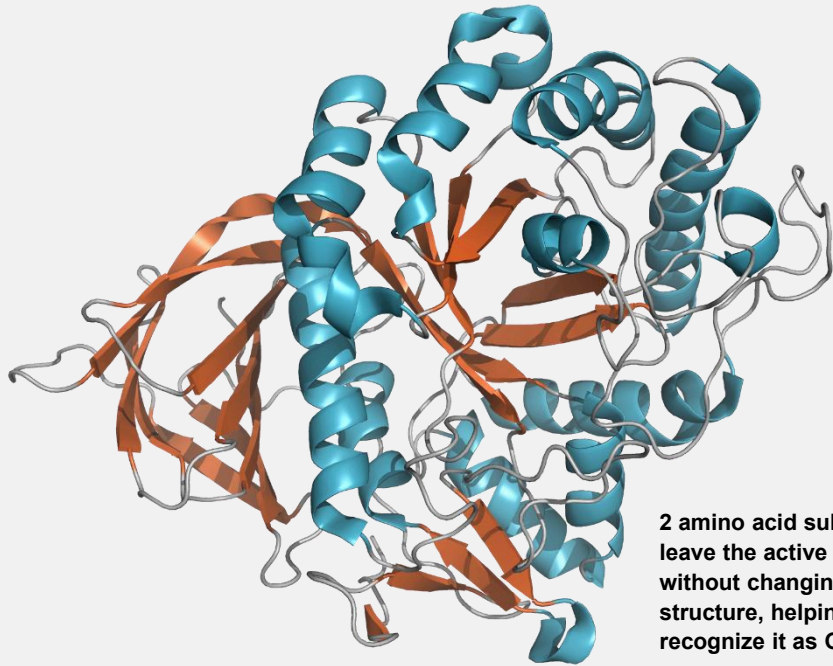


HFrEF = heart failure with reduced ejection fraction

Estimated patient numbers for Gaucher disease type 1 represent the total theoretical genetic prevalence of the indication. The seroprevalence of antibodies against the AAVS3 capsid renders some patients ineligible for AAVS3 gene therapy. Estimated GBA1-PD population is based on 5%-15% of diagnosed PD patients, representing the approximate number of patients with *GBA1* mutations. Lewy body dementia patient number from the Lewy Body Dementia Association. Estimated annual incidence of HFrEF based on company analysis.

GCase85: An enzyme with transformative potential

Our rationally engineered GCase85 offers a longer half-life and increased stability, supporting greater activity levels at lower doses.



2 amino acid substitutions leave the active site clear without changing the outside structure, helping the body recognize it as GCase

6X

longer half-life
in serum than
the wildtype

21X

longer half-life in
lysosomal pH—
6 days instead
of 6 hours



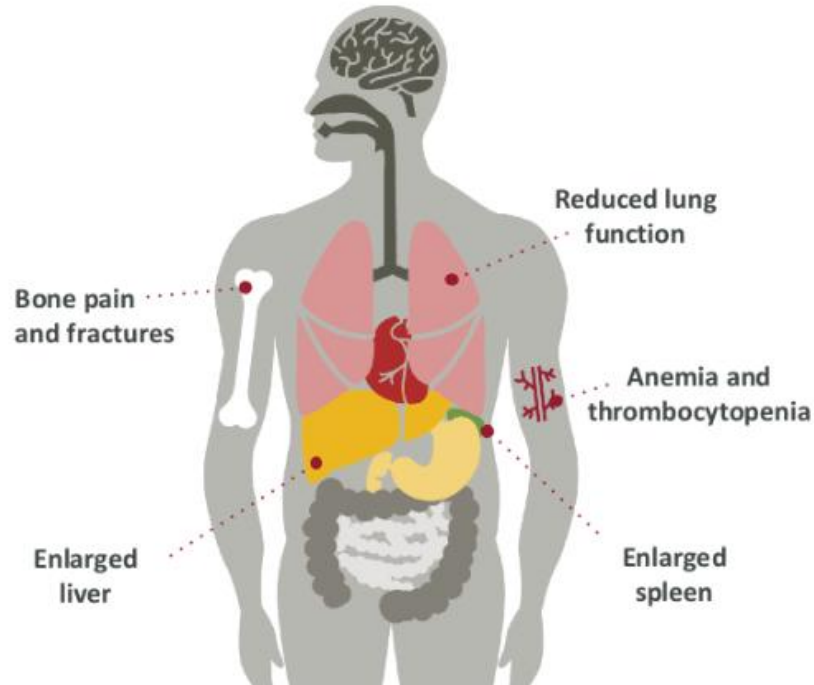
Gaucher disease can be debilitating,
even with current treatments.

**Our new therapy candidate could
change that—and change lives.**

Targeting a chronic, progressive, and life-altering condition

Gaucher disease type 1

GCase deficiency leads to a buildup of toxic substrates, Gb-1 and lyso-Gb1, impacting multiple organ systems.



Many people experience debilitating symptoms despite lifelong treatment on ERT (current standard of care).

95% of people with Gaucher disease have type 1¹

~18K patients
in US, UK, EU4 & Israel

¹Charrow 2000

A need for a new treatment

The enzyme used in ERT has a short half-life, leaving patients without enzyme coverage between doses and with lingering symptoms.

Up to

60%

of people with Gaucher still experience symptoms after 10+ years on ERT¹

¹ Weinreb et al. 2013

80%

of people with severe bone marrow burden showed no meaningful improvement after 8 years on ERT²

² De Fost 2006; low ERT dose cohort

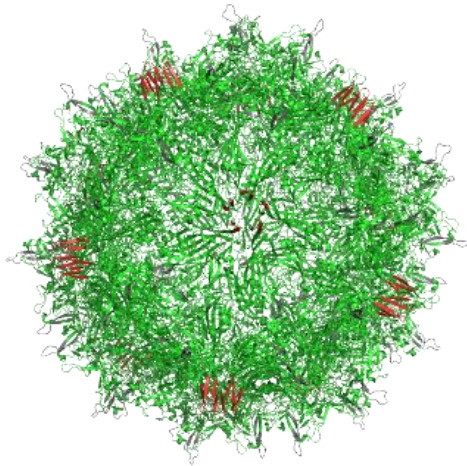
65%

report fatigue despite treatment with ERT³

³ Damiano 1998

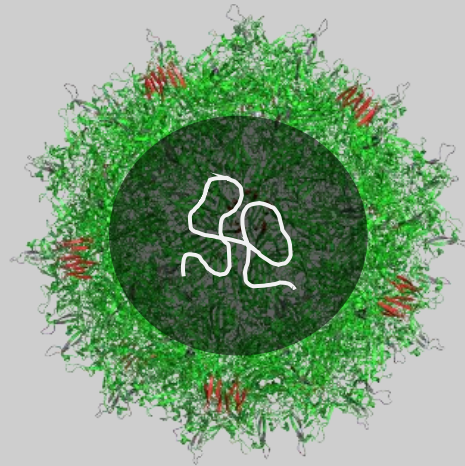
FLT201: A first-in-class gene therapy candidate for Gaucher disease

AAVS3 capsid has much higher transduction efficiency than other AAVs



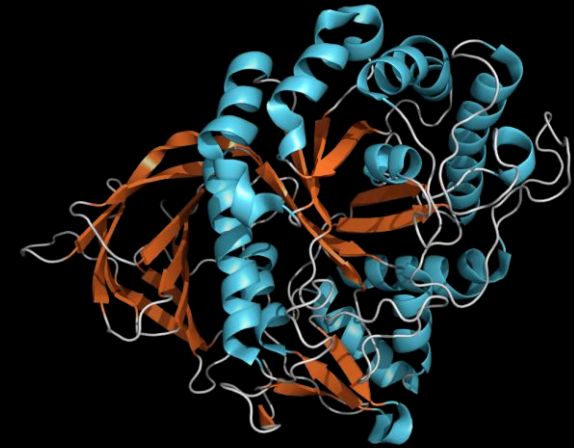
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Optimized genome focuses expression in the liver



+

Engineered GBA transgene encodes more stable GCase85



Demonstrating compelling efficacy and safety profile

Data from ongoing Phase 1/2 trial

GALILEO-1 trial results:

Demonstrated safety and efficacy

Data support selection of low dose of 4.5×10^{11} vg/kg for planned Phase 3 trial

Clean safety

Favorable safety
and tolerability in **all**
dosed patients



Compelling efficacy¹

Dramatic
improvements in
lyso-Gb1 in
patients with
persistently high
levels despite
prior therapy



Maintenance or
improvement in
hemoglobin,
platelets, bone
disease and organ
volume



Significant reduction
in **pain** and **fatigue**
in the one patient
who entered trial
with debilitating pain
and fatigue



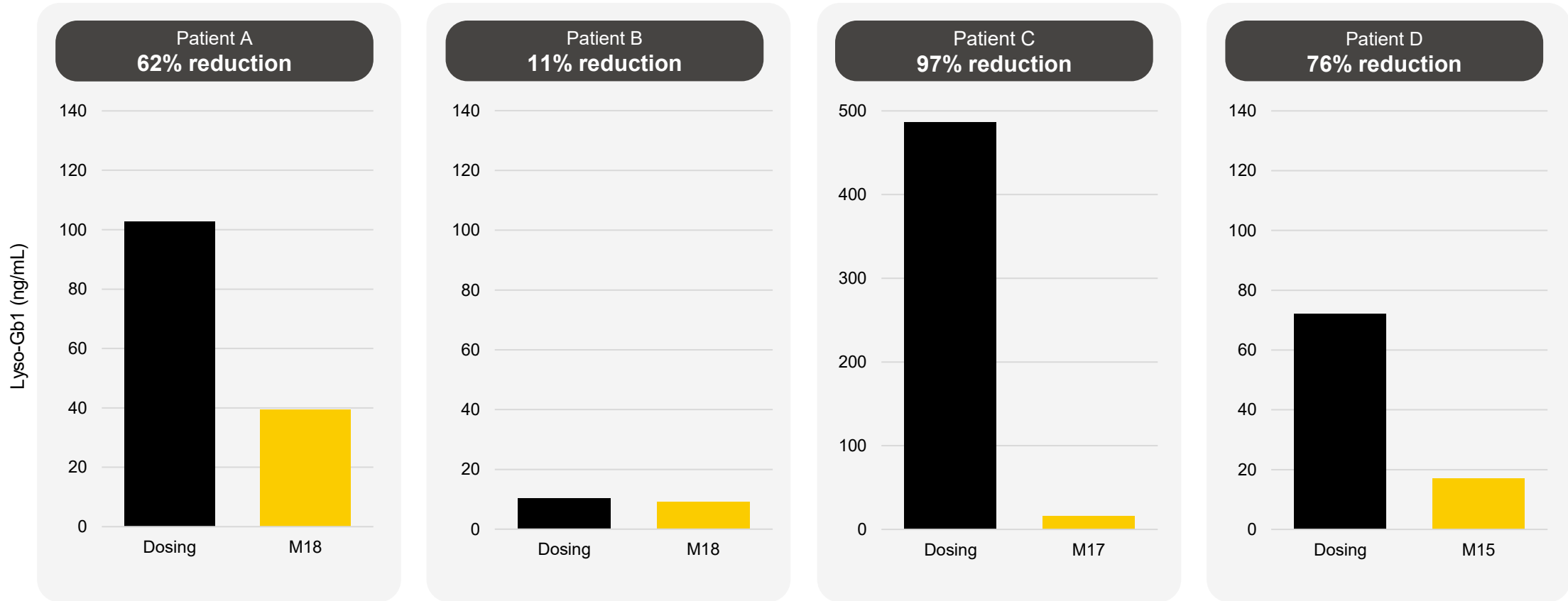
~50% of Gaucher disease type 1 patients are AAVS3 NAb-negative and available for treatment with FLT201

¹One patient with detectable neutralizing antibodies (NAbs) to the AAVS3 capsid below protocol cut-off was excluded from efficacy analysis; only patients with no detectable NAbs will be eligible for Phase 3 trial. Efficacy data for another patient not taken off background therapy is not shown.

GALILEO-1 trial results:

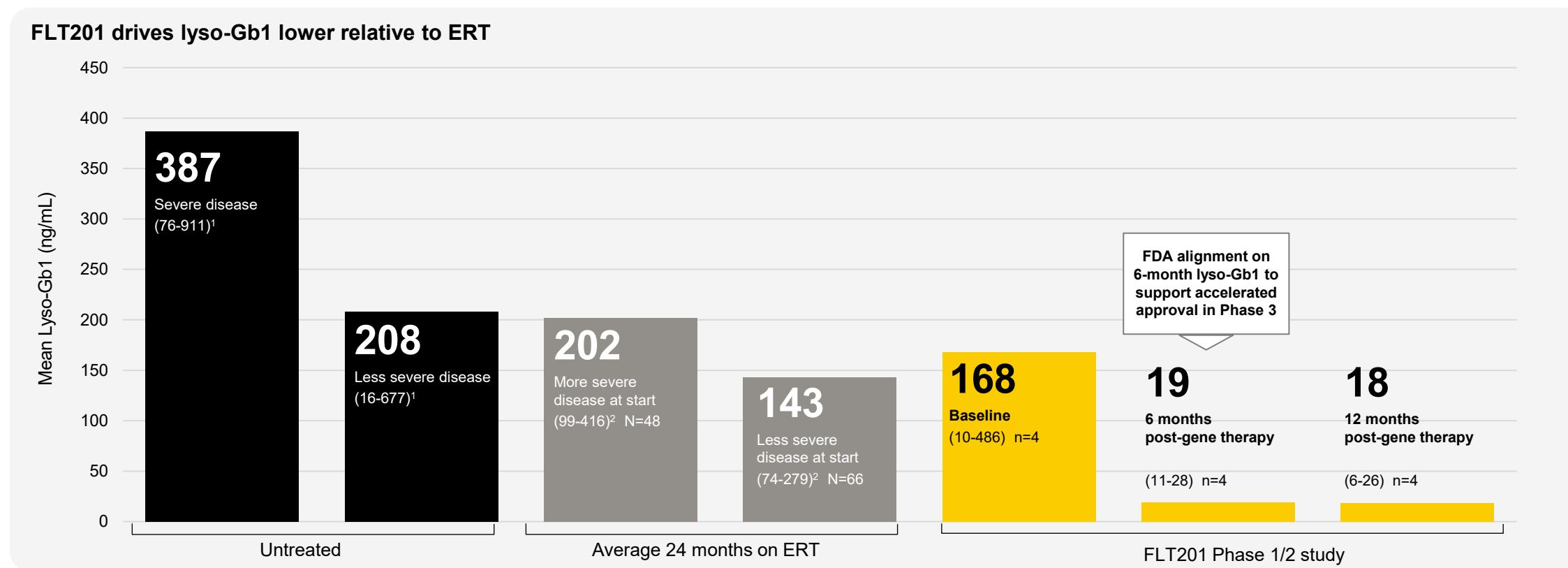
Dramatic and sustained reductions in lyso-Gb1 levels

One of the best predictors of disease severity and clinical response, lyso-Gb1 is a potential endpoint for 6-month approval pathway



Dried blood spot lyso-Gb1 concentration over time.
Patients have been off their background therapies for ~14-18.5 months
Data cut off Mar. 28, 2025

FLT201 reduces lyso-Gb1 to near-normal levels



Mean DBS lyso-Gb1 concentration (range); mean concentration in healthy population is 5.4 (1.5-16) ng/mL (Dinur 2022); measured in different populations at different timepoints.

Median value and range; ¹Curado 2023; ²Dinur 2021

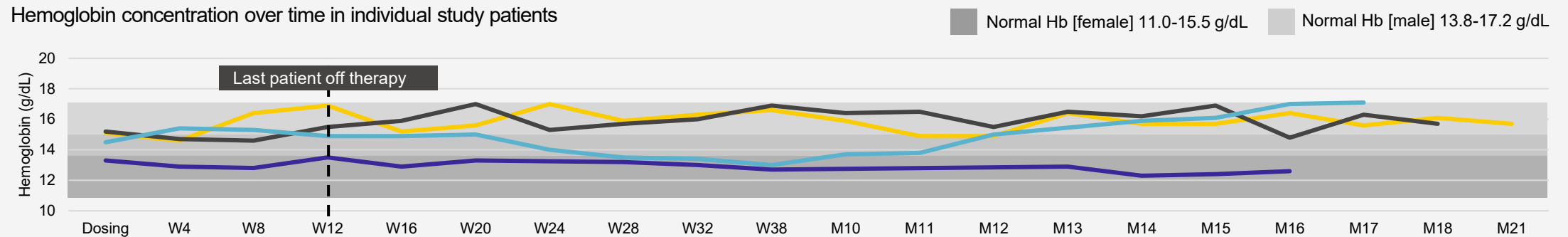
Data cut off Mar. 28, 2025

GALILEO-1 trial results:

Sustained improvement or maintenance of hemoglobin and platelets observed after withdrawal of ERT or SRT

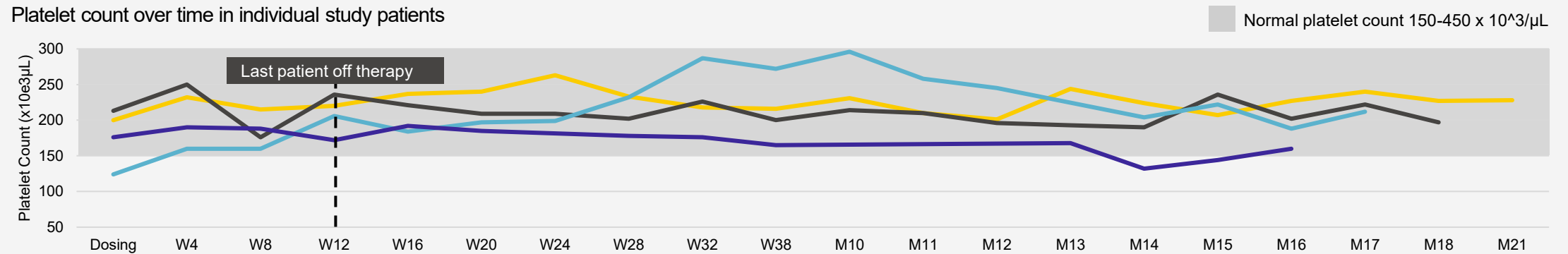
Reductions are seen quickly in heme and platelets when patients come off ERT/SRT¹

Hemoglobin concentration over time in individual study patients



Data cut off Mar. 28, 2025

Platelet count over time in individual study patients



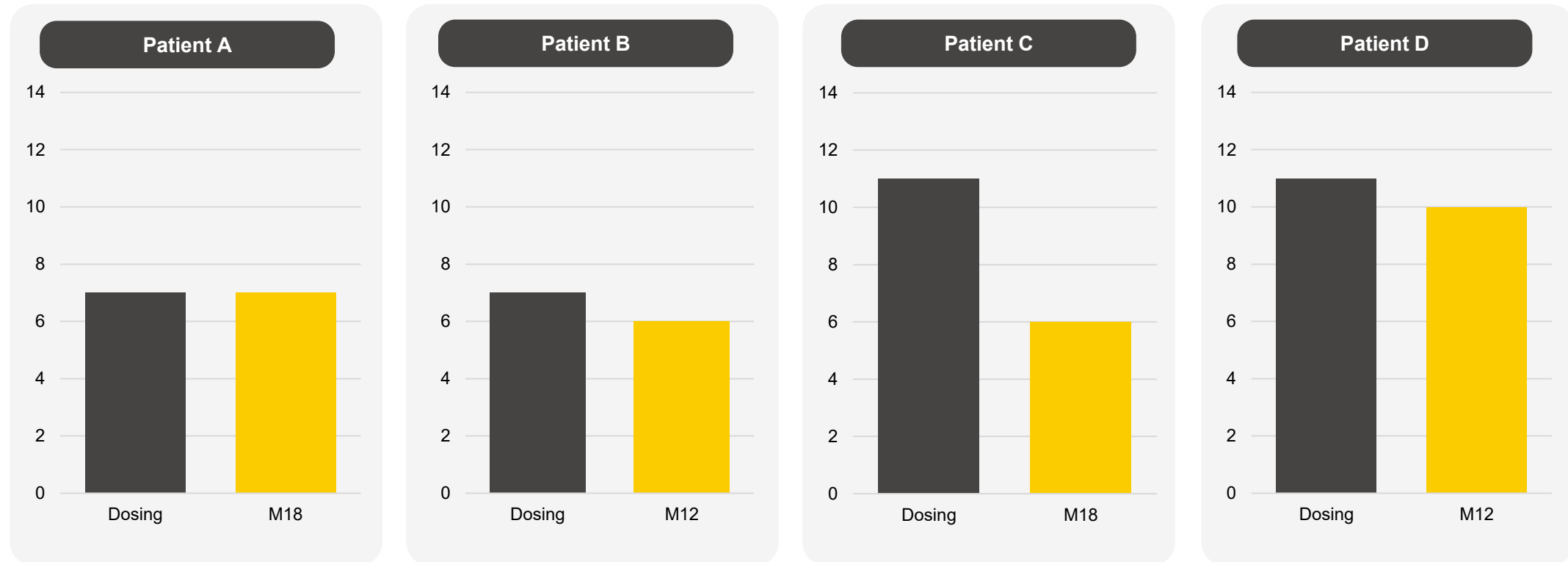
Data cut off Mar. 28, 2025

¹Zimran 2011

GALILEO-1 trial results:

Improvement or maintenance of bone marrow burden (BMB)

BMB correlates with bone necrosis, fractures, bone pain and joint replacements and remains one of the greatest unmet needs in Gaucher disease



Data cut off June 11, 2025

Patients have been off their background therapies for ~17-21 months as of data cut

GALILEO-1 trial results:

Clinically meaningful improvement in patient with significant bone disease

MRI shows clearance of diseased cells and reappearance of healthy fatty marrow



Baseline femur score after 9 years on SOC: 3

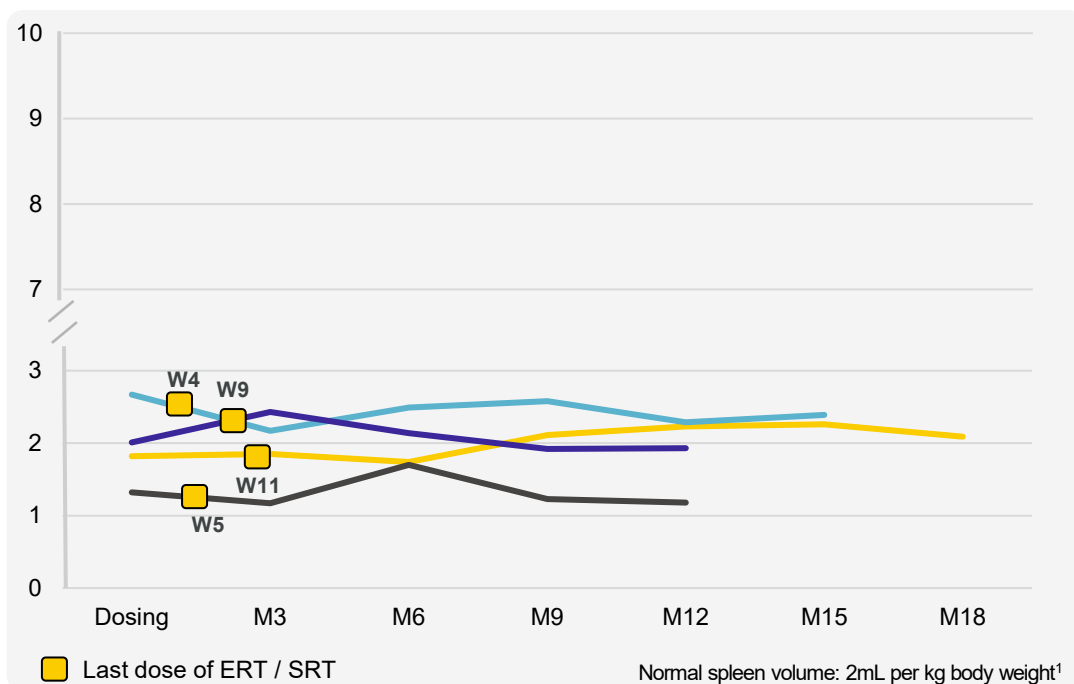


Femur score one year after dosing with FLT201: 1

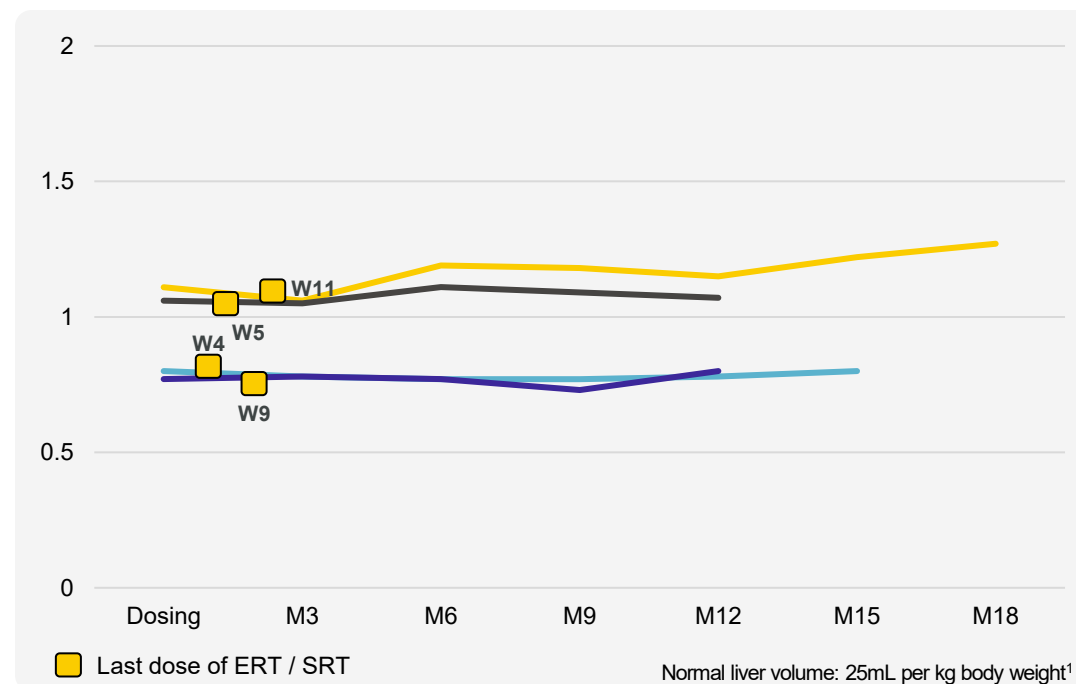
GALILEO-1 trial results:

Spleen and liver volume maintenance or improvement observed after withdrawal of ERT and SRT

Spleen volume by MRI as a multiple of normal in individual study patients



Liver volume by MRI as a multiple of normal in individual study patients



Patient A Patient B Patient C Patient D

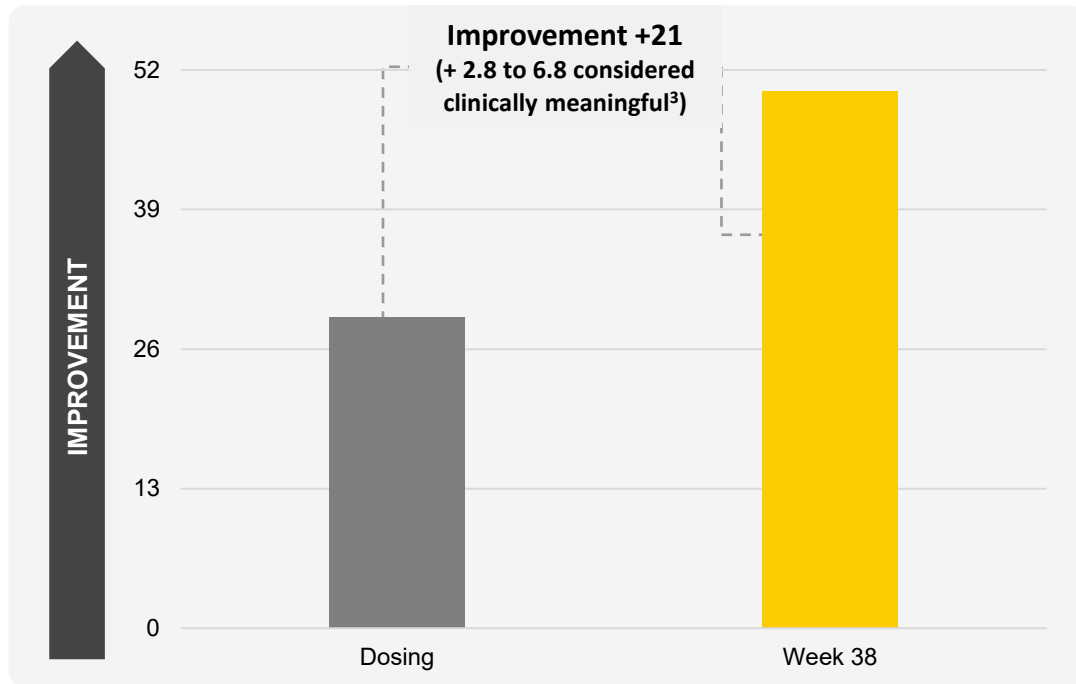
Data cut off June 11, 2025

¹Pastores et al. *Blood Cells, Molecules and Diseases*. 2014;53: 253–260

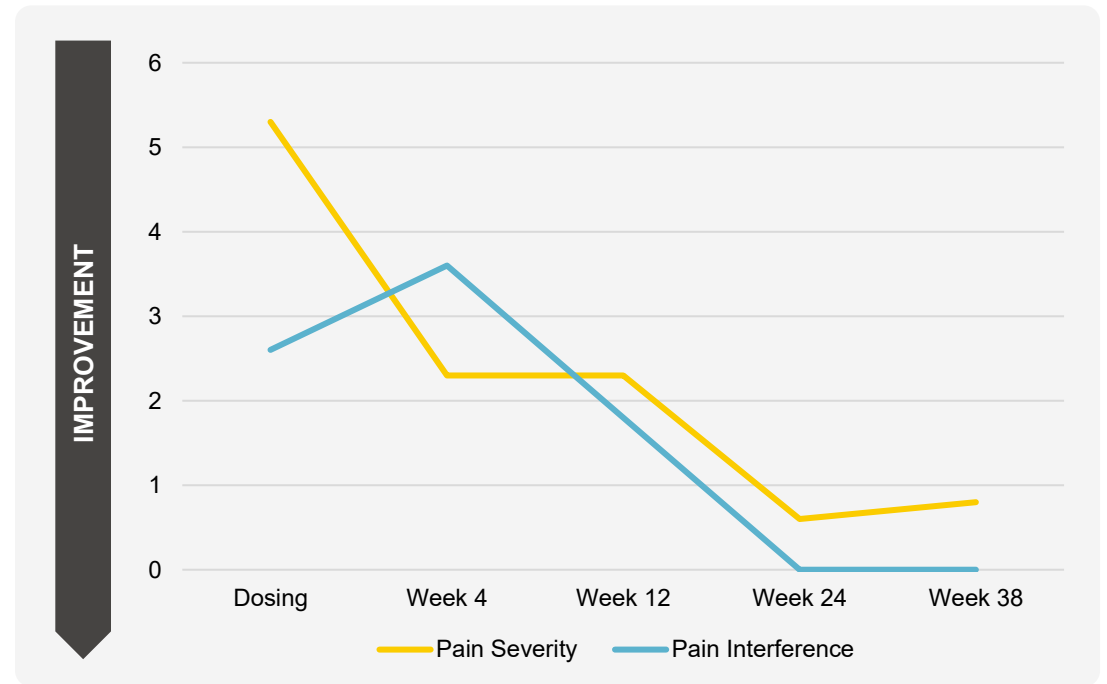
GALILEO-1 trial results:

Substantial improvement in fatigue and pain leading to improved functioning

FACIT fatigue scale (0–52)¹



Pain severity and interference (0–10)²



Data cut off Sep. 27, 2024

¹FACIT = Functional Assessment of Chronic Illness Therapy; ²Measured by Brief Pain Inventory Short Form; ³Greenbaum 2020; clinically meaningful in cancer, lupus, HUS, RA

Well tolerated, with a favorable safety profile

- No dose-limiting toxicities
- Two cases of ALT elevations above normal range deemed related to therapy
 - Spontaneously resolved or managed with immune therapy
 - No impact on efficacy
- Transient anti-GCase antibodies in two patients with no impact on clinical parameters
- ADRs related to immune management consistent with known profile

Summary of Adverse Drug Reactions for FLT201 and Immune Management (n≥2)	
Adverse Drug Reactions (ADR)	# events (# patients)
FLT201	
Elevated alanine aminotransferase (ALT)	7 (6)
Fatigue	4 (3)
Activated partial thromboplastin time prolonged	2 (2)
Anti-GCase neutralizing antibodies	2 (2)
Prednisone	
Hyperglycemia	3 (3)
Weight increase	2 (2)
Panic attack	2 (1)
Tacrolimus	
Diarrhea	4 (4)

Data cut off Dec. 6, 2024

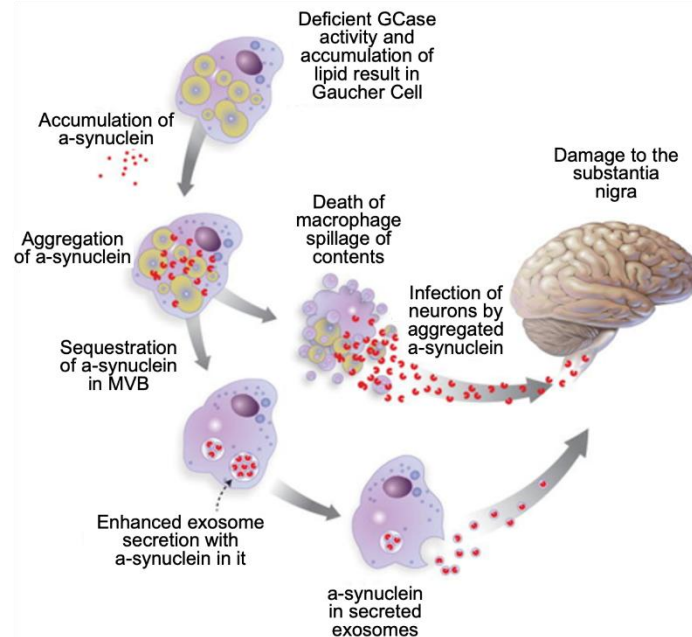


The potential of GCase85 expands
beyond Gaucher disease—
**to hundreds of thousands of people
living with GBA1 Parkinson's.**

A debilitating disease with a clear, unmet need

GBA1 Parkinson's disease

GCase deficiency leads to accumulation of α -synuclein, a hallmark of Parkinson's



Progressive, neurodegenerative condition with no disease-modifying therapy

5-15%

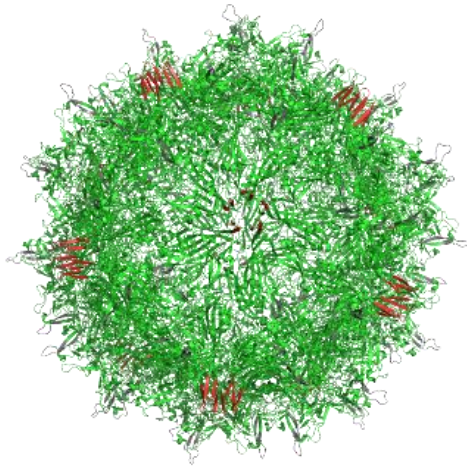
of people with Parkinson's disease have *GBA1* mutations¹

~190K people have GBA1 Parkinson's in the U.S., U.K., and EU⁴

¹Cells 2022, 11(8), 1261; <https://doi.org/10.3390/cells11081261>

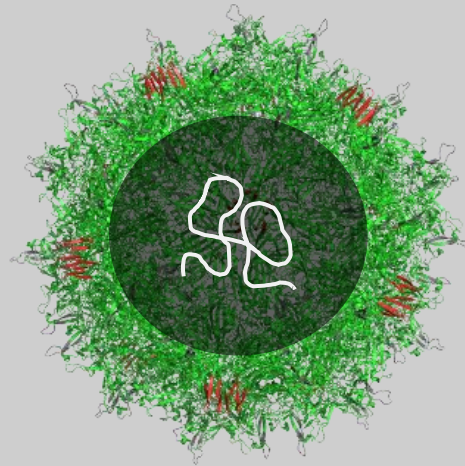
SPR301: A potentially disease-modifying treatment for GBA1 Parkinson's with a highly differentiated profile

AAV9 capsid is known for effective transduction of brain cells at low doses



+

Optimized genome boosts neuronal cell expression while minimizing harmful astrocyte and microglia activation to increase therapeutic window



+

Engineered *GBA1* transgene encodes engineered GCase85, which offers dramatically longer half-life and more stability in the brain



Achieving broad distribution at low doses

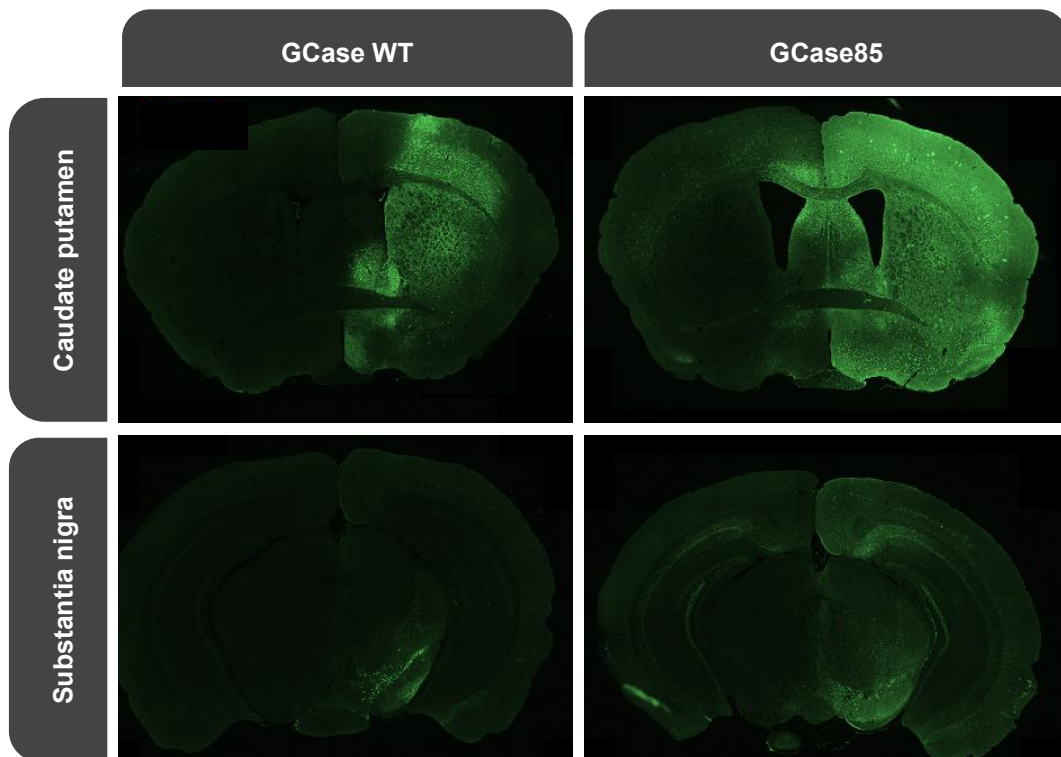
Data from ongoing preclinical studies

SPR301 preclinical study results:

Superior distribution throughout the brain compared to wildtype

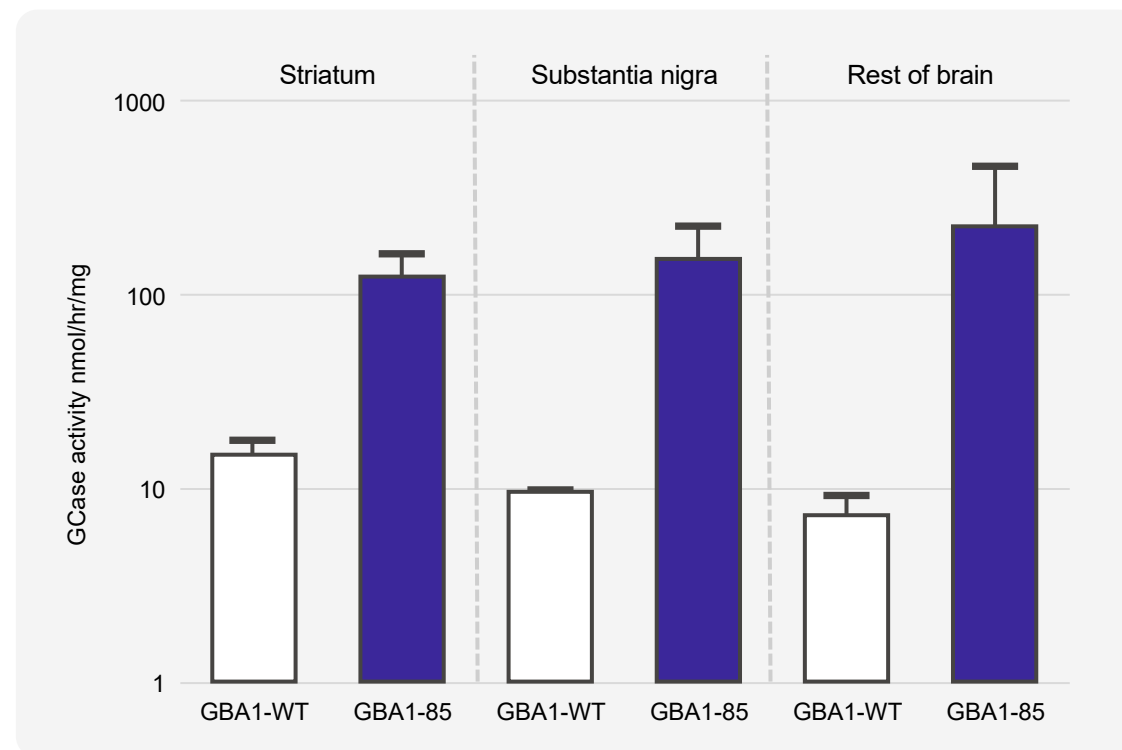
GCase85 distributes broadly and cross-corrects non-transduced cells

Distribution in the brain



Representative coronal sections of animals injected with either AAV9-GBA1-WT or AAV9-GBA1-85 labeled for GCase, n=4. Dosed AAV9 at 1.3×10^{10} vg per mouse by unilateral injection of the right hemisphere striatum.

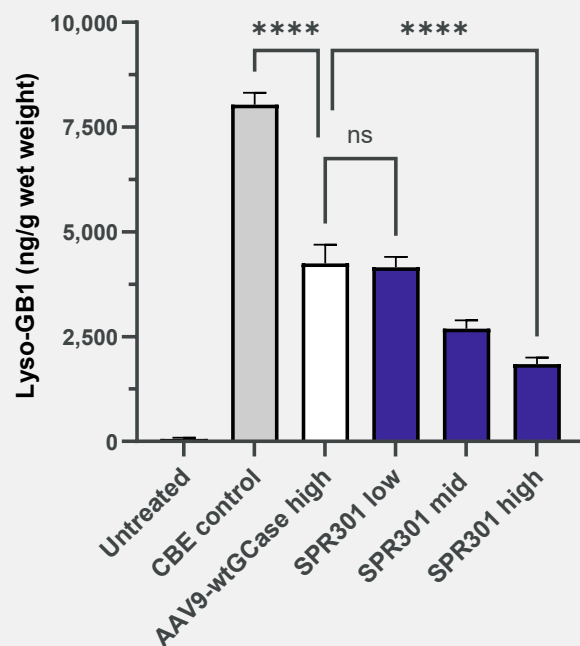
Activity in brain regions



Injected with indicated AAVs, samples dissected from striatum, substantia nigra, or the rest of the brain. The GCase activity is normalized for VG, n=3, data denoted as mean $\pm$ SD.

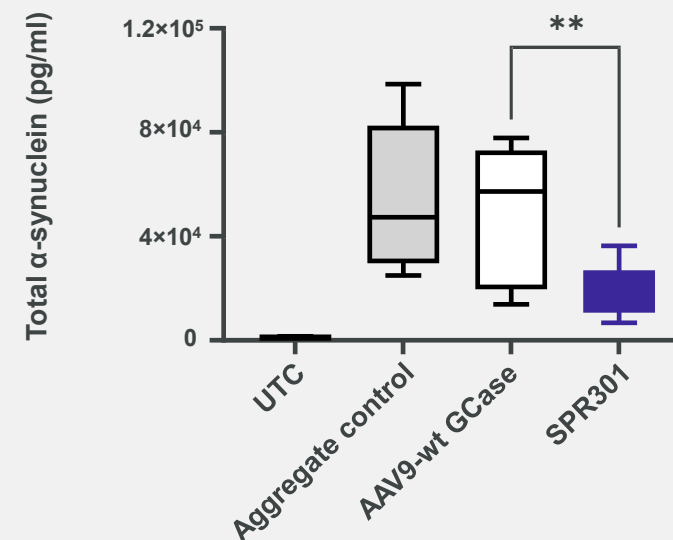
Potential for greater efficacy with a favorable safety profile

Wider therapeutic window, with 25-fold lower dose showing equivalent lyso-Gb1 reduction as high-dose AAV9-wtGCase



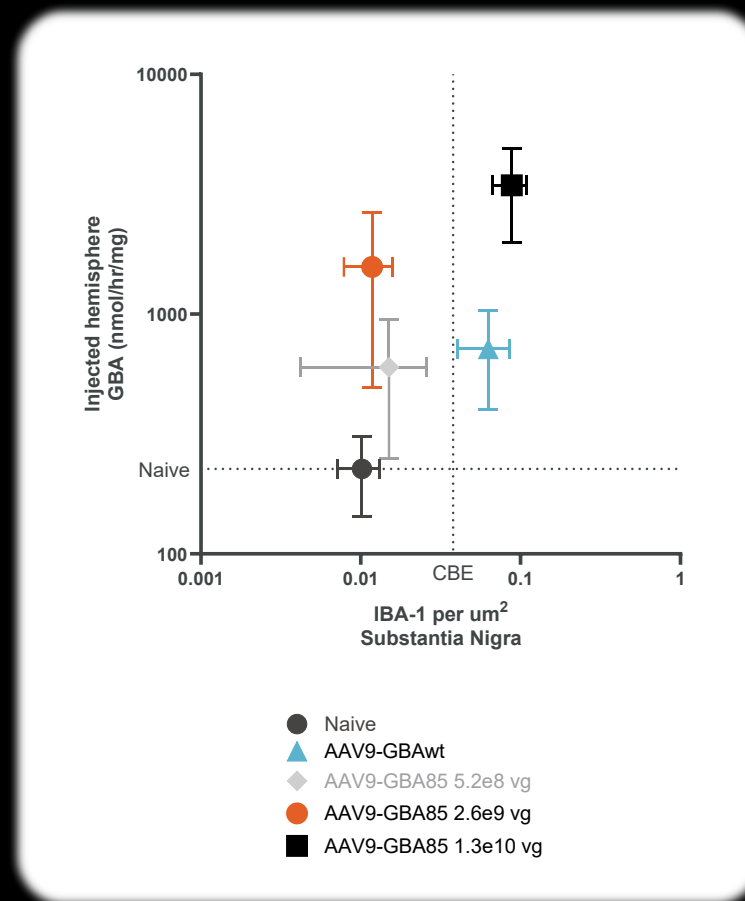
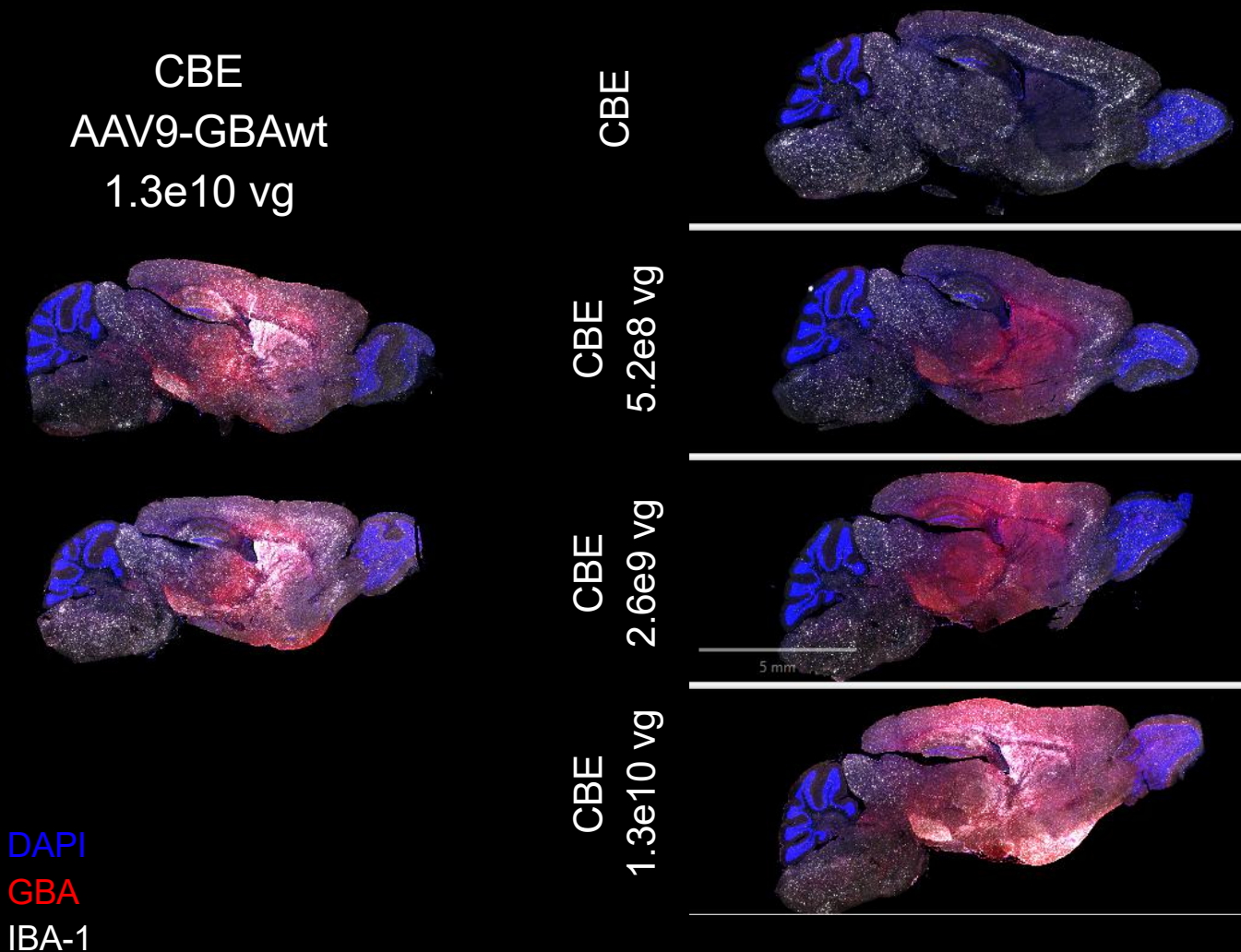
CB57BL/6J (n=8) was treated with CBE 100 mg/kg i.p. daily for 15 days either alone or in combination with a single dose of AAV9 control (1.3e10 vg), AAV9-wt GCase (1.3e10 vg) or a series of increasing doses of SPR301 in 5-fold steps from low (5.2e8 vg) to medium (2.6e9 vg) to high (1.3e10 vg). All vector doses were administered directly to the putamen as a single injection. Ordinary one-way ANOVA; ***p=0.0002 and ****p<0.0001

Higher, sustained activity levels in the brain more effectively reduce α -synuclein in neuronal cells compared to wildtype



Tested in the surrogate disease model, SH-SY5Y plus α -synuclein (4 μ g/ml), with vectors at MOI 2.5x10⁵; SH-SY5Y cells were pre-treated with *GBA* gene therapy for 24h before challenging them for 24h with recombinant α -synuclein aggregate; N=3 (n=6-10), data denoted as mean $\pm$ SEM. T-test analysis vs. AAV9-wtGCase; **p<0.01.

SPR301 provides superior GCase exposure while minimizing microglia activation



GBA glucocerebrosidase; IBA-1 marker for activated microglia

Moving toward more

- Optimizing every component of our product candidates to realize outsized clinical results at lower doses
- Advancing gene therapy candidates with the potential to set new standards of care in Gaucher disease and GBA1 Parkinson's disease
- Ambitious research strategy to move gene therapy into more prevalent diseases

Creating more impact for more people.

A team known for making an impact



Michael Parini

Chief Executive Officer
and Director

20+ years as a senior executive in
leading biopharmaceutical companies



Pam Foulds, MD

Chief Medical Officer

25+ years of medical and clinical
leadership



Henning Stennicke, PhD

Chief Scientific Officer

25+ years of scientific leadership



Paul Schneider

Chief Financial Officer

25+ years of global financial,
commercial, and operational
experience



Jay Bircher

Chief Technical
Operations Officer

30 years of quality and technical
operations experience



Nicole Jones

Chief People Officer

25+ years of global human
resources experience



Chip McCorkle

VP, GC & Corporate Secretary

10 years of experience advising leading
biopharmaceutical companies



Help us spur gene therapy forward.

