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): October 19, 2021

AVROBIO, INC.
(Exact name of registrant as specified in its charter)

Delaware	**001-38537**	**81-0710585**
(State or other jurisdiction of incorporation)	**(Commission File Number)**	**(I.R.S. Employer Identification No.)**

One Kendall Square
Building 300, Suite 201
Cambridge, MA 02139
(Address of principal executive offices, including zip code)

(617) 914-8420
(Registrant's telephone number, including area code)

Not Applicable
(Former Name or Former Address, if Changed Since Last Report)

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:

☐ 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))

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

Title of each class	Trading symbol(s)	Name of each exchange on which registered
Common Stock, $0.0001 par value per share	**AVRO**	**Nasdaq Global Select Market**

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. ☐

Item 7.01 Regulation FD Disclosure.

On October 19, 2021, AVROBIO, Inc. (the "Company") issued a press release titled "AVROBIO Reports New Interim Safety Data Across Investigational Gene Therapies for Fabry and Gaucher Disease Type 1." A copy of the press release is furnished as Exhibit 99.1 to this Current Report on Form 8-K.

The information in Item 7.01 of this Current Report on Form 8-K, including Exhibit 99.1 attached hereto, shall not be deemed "filed" for purposes 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 in any filing under the Securities Act of 1933, as amended, or the Exchange Act, except as expressly set forth by specific reference in such a filing.

Item 8.01 Other Events.

On October 19, 2021, the Company updated its corporate presentation for use in meetings with investors, analysts and others. A copy of the slide presentation is filed as Exhibit 99.2 to this Current Report on Form 8-K and incorporated into this Item 8.01 by reference.

Item 9.01. Financial Statements and Exhibits.

(d) Exhibits

99.1	AVROBIO, Inc. press release, dated October 19, 2021.
99.2	AVROBIO, Inc. slide presentation, dated October 19, 2021.
104	The cover page from this Current Report on Form 8-K, formatted in Inline XBR

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.

AVROBIO, INC.

Date: October 19, 2021

By: /s/ Geoff MacKay
Geoff MacKay
President and Chief Executive Officer

AVROBIO Reports New Interim Safety Data Across Investigational Gene Therapies for Fabry and Gaucher Disease Type 1

No adverse events or serious adverse events related to drug product in 14 patients treated in Phase 1 and 2 Fabry disease trials and Phase 1/2 Gaucher disease trial

Post-gene therapy administration safety data out 4½ years for first patient dosed

AVROBIO leads way with new industry-leading techniques designed to better elucidate the safety profile of investigational gene therapies at cellular level

CAMBRIDGE, Mass.—(BUSINESS WIRE)—Oct. 19, 2021—AVROBIO, Inc. (Nasdaq: AVRO), a leading clinical-stage gene therapy company with a mission to free people from a lifetime of genetic disease, today reported new safety data from the first lentiviral gene therapy clinical trials for Fabry disease and Gaucher disease, as well as new high-resolution cellular data providing insights into the mechanisms of action of its gene therapies. The data are being presented at the virtual 28th Annual Congress of the European Society of Gene & Cell Therapy (ESGCT), Oct. 19-22, 2021.

“We have worked from the very beginning and at every turn to incorporate a strong safety focus in our proprietary plato® gene therapy platform, by having carefully selected clinical indications; an optimized, state-of-the-art vector; closed and automated manufacturing; use of innovative analytics; and a personalized conditioning regimen, to bring lentiviral gene therapies to patients with lysosomal disorders,” said AVROBIO President and CEO Geoff MacKay. “We believe the data shared this week continue to support the predictable safety profile of our investigational gene therapies targeting lysosomal disorders. Additionally, we’re particularly proud to unveil new industry-leading techniques that are designed to provide additional insight throughout the process, including safety monitoring at the DNA level within different bone marrow and blood cell types.”

Fabry disease clinical trial safety data reinforce predictable and generally consistent safety profile

New safety data from the first eight adult patients dosed in the Phase 2 FAB-GT trial and the five adult patients dosed in the investigator-sponsored Phase 1 trial show no adverse events (AEs) or serious adverse events (SAEs) related to drug product AVR-RD-01. The AEs and SAEs experienced by trial participants to date in the two trials have been generally consistent with myeloablative conditioning, protocol-mandated drugs, underlying disease or pre-existing conditions. Of all safety events reported to date, 4% were classified as SAEs (n=11), consisting of nausea, vomiting, dehydration, fever, febrile neutropenia and mucosal inflammation, all of which resolved without clinical sequelae.

These safety data are from patients in the FAB-GT study with a mean post gene-therapy follow up of 16 months (range: 2-38 months) and the Phase 1 study with a mean post-gene therapy follow-up of 39 months (range: 29-54 months). Safety data from the ninth patient recently dosed in the FAB-GT study are still being analyzed, but preliminary data are consistent with the overall safety profile.

“Overall, we believe that these data further support the risk-benefit profile of AVROBIO’s investigational gene therapy for Fabry disease. With previously reported durability data out more than three and a half years for the first patient, these new data strengthen the safety profile of this gene therapy,” said Mark Thomas, M.D., principal investigator of the AVROBIO-sponsored FAB-GT Phase 2 trial of AVR-RD-01, an investigational gene therapy for Fabry disease, nephrologist at the Department of Nephrology, Royal Perth Hospital and clinical professor at the University of Western Australia Medical School. “In my team’s experience, target concentration intervention delivers an individualized busulfan dose to patients, which results in anticipated reduced blood cell counts and other common adverse events associated with the routine practice of stem cell transplantation and minimizes risk of out-of-range toxicity.”

With AVROBIO’s Bu90-Target Concentration Intervention (TCI) conditioning regimen, patients receive four daily doses of the conditioning agent busulfan, each adjusted to target a cumulative area under the curve of 90 mg x hr/L. This targeted dosing is intended to maximize busulfan’s ability to make space in the bone marrow for the genetically modified stem cells to engraft, while minimizing the risk of out-of-range toxicity. AVROBIO is also working with clinicians to develop comprehensive care guidelines designed to help gene therapy care teams further proactively mitigate or prevent potential side effects.

Six of the 14 Fabry disease patients in the trials have been treated using AVROBIO’s proprietary plato® gene therapy platform, which includes a state-of-the-art optimized lentiviral vector, proprietary tag technologies, proprietary analytical techniques and Bu90-TCI. The platform’s industry-leading closed, automated manufacturing platform is designed to bring gene therapy to patients worldwide.

The safety data cut-off date for the Phase 1 trial was July 26, 2021, and for the FAB-GT trial was Aug. 20, 2021.

Previously reported efficacy data from the two trials have documented stable and sustained enzyme activity and reductions of 87% and 100% in kidney Gb3 inclusions for the evaluable kidney biopsies of two Fabry disease patients. AVROBIO is planning to share updated efficacy data from both trials during the first quarter of 2022. Enrollment in the FAB-GT trial (NCT03454893) is ongoing, and further details are available on clinicaltrials.gov.

Gaucher disease type 1 clinical data at 12+ months show no unexpected safety events

New safety data from the first patient dosed in the Phase 1/2 Guard1 trial of AVR-RD-02 show no SAEs and no AEs to date related to drug product more than 14 months post-treatment. Reported AEs for this patient, who was treated with investigational AVR-RD-02 incorporating key elements of AVROBIO’s proprietary plato® gene therapy platform, have been consistent with myeloablative conditioning, protocol-mandated drugs, underlying disease and pre-existing conditions. The safety data cut-off date was Aug. 31, 2021.

A second patient has now been dosed in the trial.

Previously reported efficacy data from the Guard1 clinical trial has shown improvement across biomarkers for the first-treated Gaucher disease patient, as well as platelet and hemoglobin levels maintained in the normal range. Enrollment in the Guard1 trial (NCT04145037) is ongoing, and further details are available on clinicaltrials.gov.

Novel techniques provide insight on safety at DNA level of bone marrow and blood cell types

Standard safety follow-up for *ex vivo* lentiviral gene therapy patients includes looking at the number and location of transgene insertions broadly across nucleated blood cell populations. AVROBIO has developed a new approach involving high-resolution molecular biology follow-up that enables the collection and monitoring of integration sites for individual cell types and at different stages of cell maturation. Additionally, using single-cell transcriptional profiling, AVROBIO has traced stem/progenitor cell states from their initial source, through transduction, to multiple years after infusion in patients.

All samples analyzed to date show a stable composition of genetically engineered cell populations in the blood starting six months after gene therapy. The company has seen no evidence of persistent dominant clonal expansion across all patients studied. In addition, when combining this information with data derived from the patients' own bone marrow, the company detected identical insertion sites between blood cell progenitors and their mature cell progeny.

"Patient safety is at the core of our plato® gene therapy platform and we have developed industry-leading techniques, including being able to monitor at the cellular level the integration site and transcription profiles of our investigational therapies. We believe these data provide a valuable and unique tool to monitor at the DNA level the safety of our investigational therapies within the different bone marrow and blood cell types," adds MacKay.

About AVROBIO Our vision is to bring personalized gene therapy to the world. We aim to prevent, halt or reverse disease throughout the body with a single dose of gene therapy designed to drive durable expression of therapeutic protein, even in hard-to-reach tissues and organs including brain, muscle and bone. Our ex vivo lentiviral gene therapy pipeline includes clinical programs in Fabry disease, Gaucher disease type 1 and cystinosis, as well as preclinical programs in Hunter syndrome, Gaucher disease type 3 and Pompe disease. AVROBIO is powered by our industry-leading plato® gene therapy platform, our foundation designed to deliver gene therapy worldwide. We are headquartered in Cambridge, Mass., with an office in Toronto, Ontario. For additional information, visit avrobio.com, and follow us on Twitter and LinkedIn.

Forward-Looking Statement

This press release contains forward-looking statements, including statements made pursuant to the safe harbor provisions of the Private Securities Litigation Reform Act of 1995. These statements may be identified by words and phrases such as “aims,” “anticipates,” “believes,” “could,” “designed to,” “estimates,” “expects,” “forecasts,” “goal,” “intends,” “may,” “plans,” “possible,” “potential,” “seeks,” “will,” and variations of these words and phrases or similar expressions that are intended to identify forward-looking statements. These forward-looking statements include, without limitation, statements regarding our business strategy for and the potential therapeutic benefits of our prospective product candidates, the anticipated overall safety profile of our product candidates, the implementation and anticipated benefits of our high-resolution molecular biology monitoring techniques, the design, commencement, enrollment and timing of ongoing or planned clinical trials, clinical trial results, product approvals and regulatory pathways, the timing of patient recruitment and enrollment activities, and product approvals, anticipated benefits of our gene therapy platform including potential impact on our commercialization activities, timing and likelihood of success, and the expected benefits and results of our implementation of the plato® platform in our clinical trials and gene therapy programs, including the use of a personalized busulfan conditioning regimen (Bu90-TCI). Any such statements in this press release that are not statements of historical fact may be deemed to be forward-looking statements. Results in preclinical or early-stage clinical trials may not be indicative of results from later stage or larger scale clinical trials and do not ensure regulatory approval. You should not place undue reliance on these statements, or the scientific data presented.

Any forward-looking statements in this press release are based on AVROBIO’s current expectations, estimates and projections about our industry as well as management’s current beliefs and expectations of future events only as of today and are subject to a number of risks and uncertainties that could cause actual results to differ materially and adversely from those set forth in or implied by such forward-looking statements. These risks and uncertainties include, but are not limited to, the risk that any one or more of AVROBIO’s product candidates will not be successfully developed or commercialized, the risk of cessation or delay of any ongoing or planned clinical trials of AVROBIO or our collaborators, the risk that AVROBIO may not successfully recruit or enroll a sufficient number of patients for our clinical trials, the risk that AVROBIO may not realize the intended benefits of our gene therapy platform, including the features of our plato® platform, the risk that our product candidates or procedures in connection with the administration thereof will not have the safety or efficacy profile that we anticipate, the risk that prior results, such as signals of safety, activity or durability of effect, observed from preclinical or clinical trials, will not be replicated or will not continue in ongoing or future studies or trials involving AVROBIO’s product candidates, the risk that we will be unable to obtain and maintain regulatory approval for our product candidates, the risk that the size and growth potential of the market for our product candidates will not materialize as expected, risks associated with our dependence on third-party suppliers and manufacturers, risks regarding the accuracy of our estimates of expenses and future revenue, risks relating to our capital requirements and needs for additional financing, risks relating to clinical trial and business interruptions resulting from the COVID-19 outbreak or similar public health crises, including that such interruptions may materially delay our enrollment and development timelines and/or increase our development costs or that data collection efforts may be impaired or otherwise impacted by such crises, and risks relating to our ability to obtain and maintain intellectual property protection for our product candidates. For a discussion of these and other risks and uncertainties, and other important factors, any of which could cause AVROBIO’s actual results to differ materially and adversely from those contained in the forward-looking statements, see the section entitled “Risk Factors” in AVROBIO’s most recent Quarterly Report on Form 10-Q, as well as discussions of potential risks, uncertainties and other important factors in AVROBIO’s subsequent filings with the Securities and Exchange Commission. AVROBIO explicitly disclaims any obligation to update any forward-looking statements except to the extent required by law.

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Exhibit 99.2

Disclaimer

This presentation has been prepared by AVROBIO, Inc. ("AVROBIO") for informational purposes only and not for any other purpose. Certain information contained in this presentation and statements made orally during this presentation relate to or are based on studies, publications, surveys and other data obtained from third-party sources and AVROBIO's own internal estimates and research. While AVROBIO believes these third-party sources to be reliable as of the date of this presentation, it has not independently verified, and AVROBIO makes no representation as to the adequacy, fairness, accuracy or completeness of any information obtained from third-party sources. While AVROBIO believes its internal research is reliable, such research has not been verified by any independent source.

This presentation may contain forward-looking statements made pursuant to the safe harbor provisions of the Private Securities Litigation Reform Act of 1995. These statements may be identified by words and phrases such as "aims," "anticipates," "believes," "could," "designed to," "estimates," "expects," "forecasts," "goal," "intends," "may," "plans," "possible," "potential," "seeks," "will," and variations of these words and phrases or similar expressions that are intended to identify forward-looking statements. These forward-looking statements include, without limitation, statements regarding our business strategy for and the potential therapeutic benefits of our current and prospective product candidates; the design, commencement, enrollment and timing of ongoing or planned clinical trials and regulatory pathways; our plans and expectations with respect to the development of our clinical and preclinical product candidates, including timing, design and initiation of our potential clinical and registration trials and anticipated interactions with regulatory agencies; the timing of anticipated clinical and regulatory updates; the timing of patient recruitment and enrollment activities, clinical trial results, and product approvals; the timing and results of our ongoing preclinical studies; the anticipated benefits of our gene therapy platform including the potential impact on our commercialization activities, timing and likelihood of success; the anticipated benefits and safety profile of busulfan as a conditioning agent; the implementation and anticipated benefits of our high-resolution molecular biology monitoring techniques; the expected benefits and results of our manufacturing technology, including the implementation of our plato® platform in our clinical trials and gene therapy programs; the expected safety profile of our investigational gene therapies; the potential impact of the COVID-19 outbreak on our clinical trial programs and business generally; and the market opportunity for and anticipated commercial activities relating to our investigational gene therapies. Any such statements in this presentation that are not statements of historical fact may be deemed to be forward-looking statements.

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Note regarding trademarks: plato® is a registered trademark of AVROBIO. Other trademarks referenced in this presentation are the property of their respective owners.

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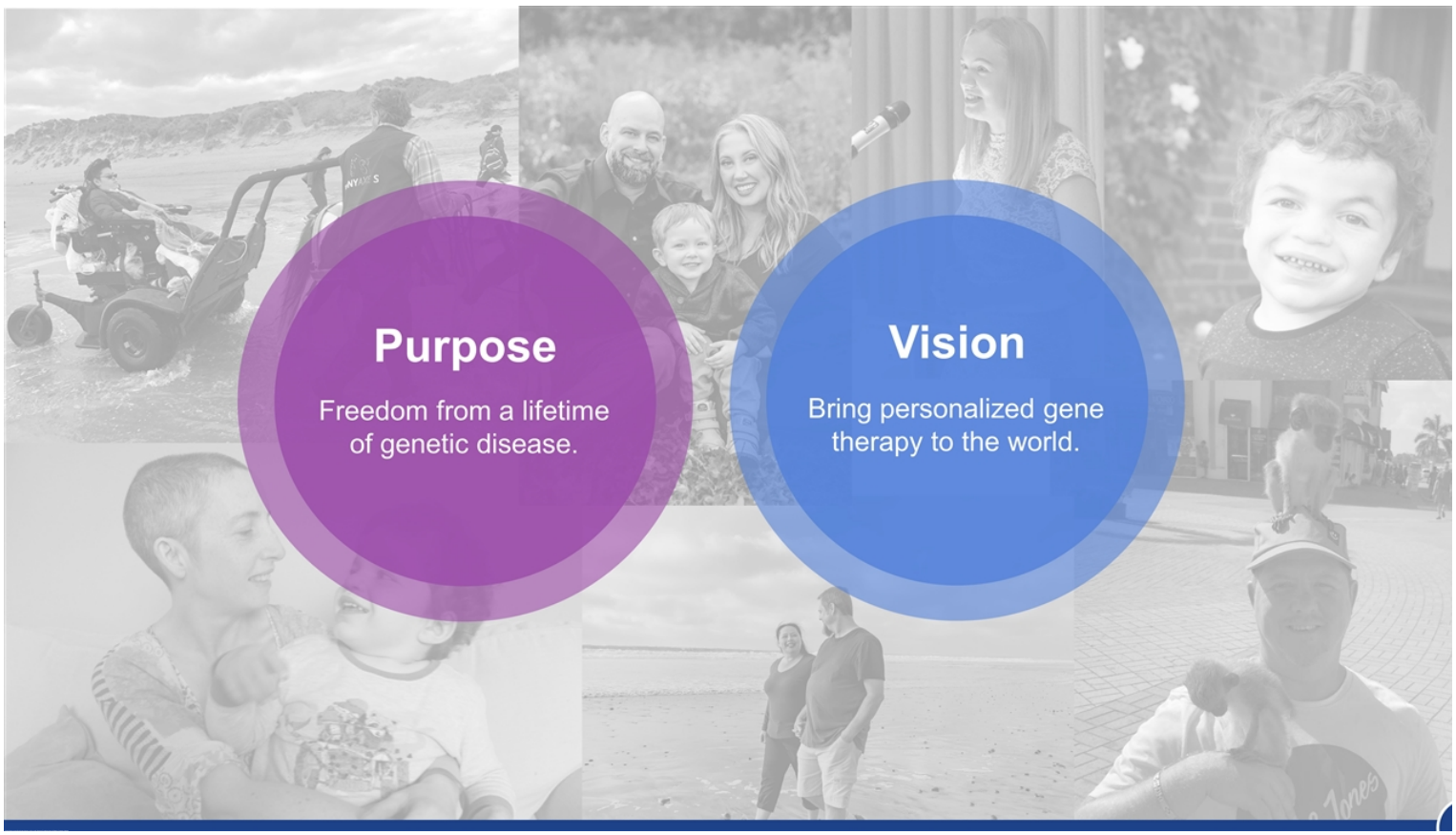

Purpose
Freedom from a lifetime of genetic disease.
Vision
Bring personalized gene therapy to the world.

Leadership in *ex vivo* lentiviral gene therapy

Leading pipeline for 6 lysosomal disorders
First-in-class gene therapies

Multi-billion dollar market potential
>50,000 target patient population
~$4.8 billion annual net sales SOC

Industry-leading platform: plato®
Foundation for worldwide commercialization and pipeline expansion

19 **Patients** dosed across **3 indications**

100% **of patients** out >6 months show **durability**; Longest out **3.5 years**

Planning for **multiple registration trials** in 2022; Pivoting to commercial readiness

SOC: Standard of Care

Leading lysosomal disorder gene therapy pipeline

Multiple milestones across pipeline expected over the next 12 months

Planned regulatory milestones subject to regulatory agency clearance

AVROBIO powered by plato

Multi-billion dollar market opportunity

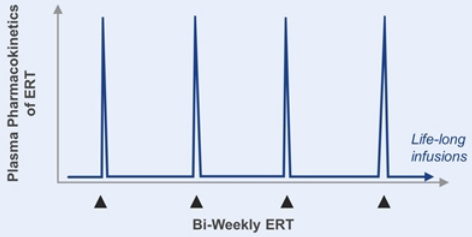
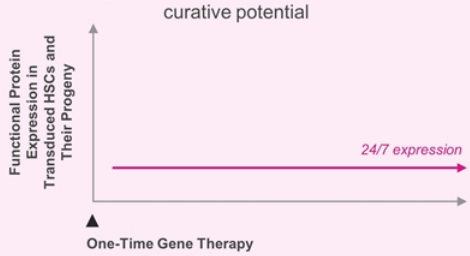
Pipeline of first-in-class indications targeting > 50,000 patients

Disease	Approx. 2020 Global Net Sales†	Five-Year SOC Cost per U.S. Patient*	Selected Companies w/ Marketed Therapies
Fabry	$1.4B	$1.7M	SANOFI GENZYME, Takeda Shire
Cystinosis	$0.2B	$4.3M	HORIZON‡
Gaucher	$1.5B	$2.3M	SANOFI GENZYME, Takeda Shire
Hunter	$0.6B	$2.4M	Takeda Shire
Pompe	$1.1B	$3.2M	SANOFI GENZYME
	Total: $4.8B		

Sources: Rombach S et al., Orphanet J Rare Dis, 2013; van Dussen L et al., Orphanet J Rare Dis, 2014
** WAC pricing from Redbook using standard dosing assumptions*
† 2020 Net Sales from company annual and other reports
‡ Horizon's Procysbi oral therapy (delayed release cysteamine bitartrate); midpoint between avg. adult and pediatric
Note: Shire acquired by Takeda in 2019
SOC: Standard of Care

Significant advantages over standard of care

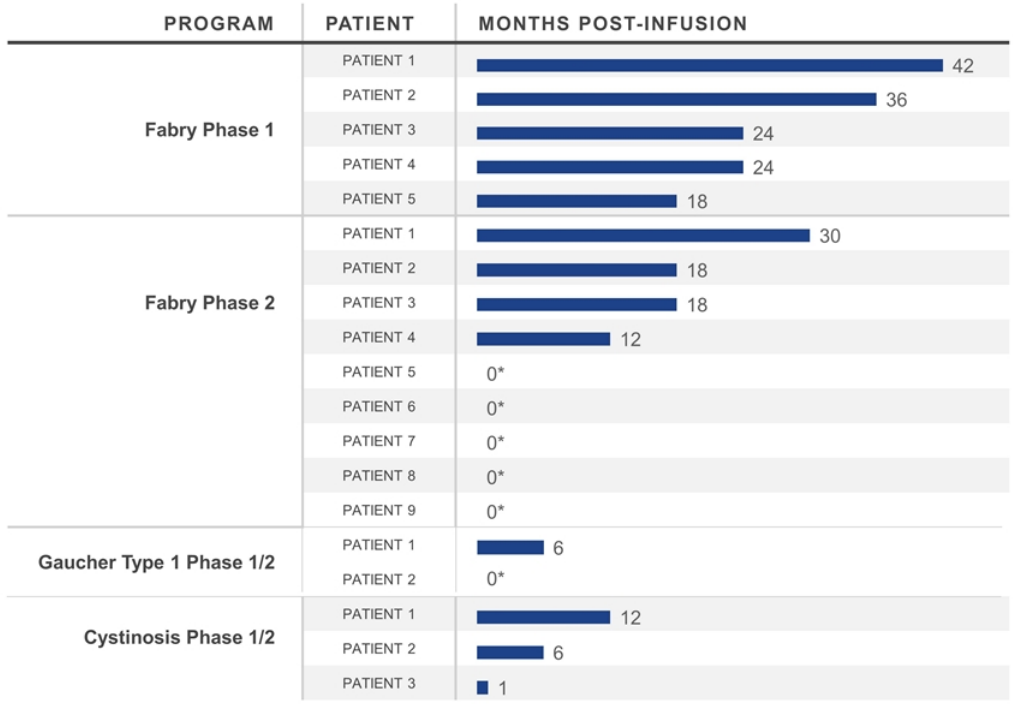
Lifelong treatments vs. potential single-dose therapy

	DISEASE PROGRESSION CONTINUES	COULD HALT, PREVENT OR REVERSE DISEASE
	Enzyme Replacement Therapy (ERT) Temporary bolus of enzyme, not curative  	**AVROBIO Gene Therapy** Designed for 24/7 expression of protein, curative potential 
Enzyme or protein level	Transient, intermittent elevation	Long-term, continuous elevation
Treatment burden	Bi-weekly IV infusions	Single IV infusion
Ability to impact CNS	No	Yes

ERT: Enzyme Replacement Therapy; IV: Intravenous; HSC: Hematopoietic Stem Cells

Durability demonstrated across clinical programs

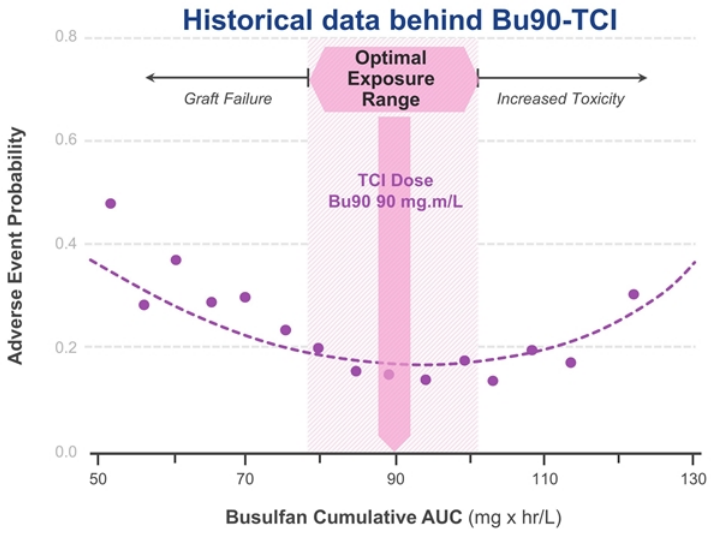
First patient out 3.5 years; 10 patients out 1 year or more



* Data not yet available

Analysis of 465 non-malignant patients identified optimum exposure to busulfan

Bu90-TCI designed with objectives of providing precise target concentration, further improving outcomes, and reducing risk of out of-range toxicity

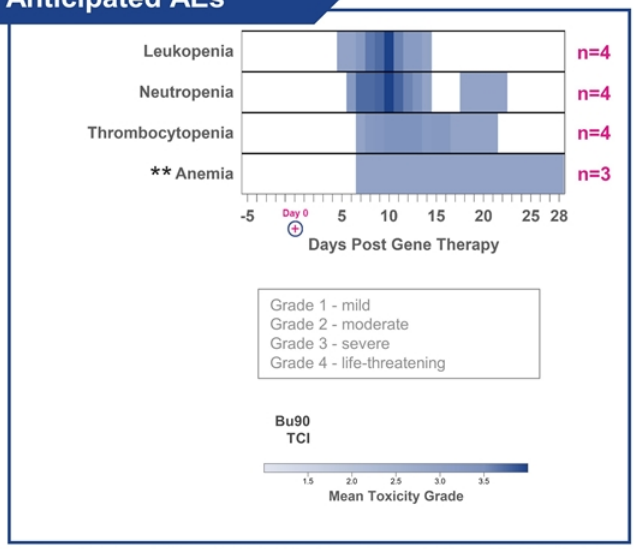


Bu: Busulfan; AUC: Area Under the Curve; TCI: Target Concentration Intervention
Sources: Bartelink IH et al, Lancet Haematol, 2016

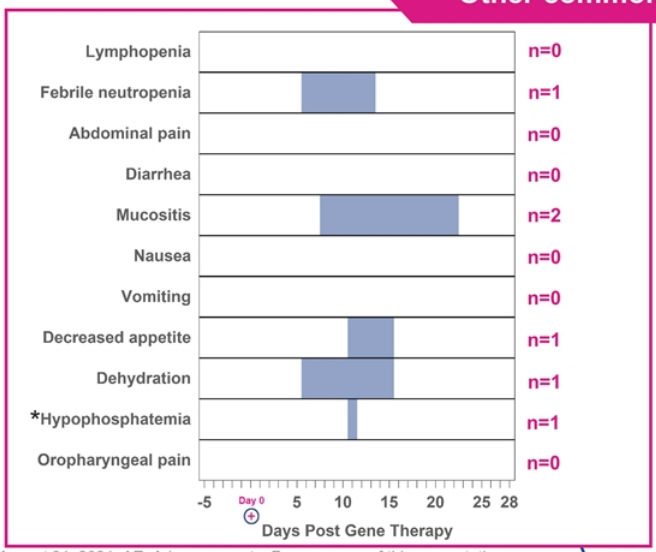
Subacute grade 3-4 AEs observed to date after Bu90-TCI conditioning have been predictable and have typically peaked over ~1 week

Based on available data from five Fabry Phase 2 patients and one Gaucher Phase 1/2 patient who received Bu90-TCI

Anticipated AEs



Other common AEs***



*Notes: Fabry Phase 2 safety data cut-off August 20, 2021; Gaucher Phase 1/2 safety data cut-off August 31, 2021; AE: Adverse events; For purposes of this presentation, 'subacute' is defined as AEs occurring and resolving within 5 to 28 days from the time of dosing; * Resolved with treatment; ** One patient had unresolved and ongoing anemia as of the Fabry Phase 2 safety data cut-off of August 20, 2021, which is generally considered chronic; *** Excludes AEs that are not subacute Grade 3-4*

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Developing proactive care approaches for HCPs designed to improve the patient experience

Elevated focus intended to prevent or mitigate side effects

Side-effect profile addressability

Proactive management of common side effects

- Mucositis = magic mouthwash, drugs that accelerate mucosal healing, pain relievers as necessary
- Nausea = anti-nausea drugs, hydration
- Risk of infection = improved preventative antimicrobials and rapid neutrophil recovery (can be further enhanced by G-CSF)
- Risk of bleeding = rapid platelet recovery (can be further enhanced by platelet transfusion)

AVROBIO developing proactive care guidelines and facilitating real-time support to clinicians

- To further improve patient experience for all types of conditioning

Source: Matthews, RH et al, Bone Marrow Transplantation, 2007

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Fabry disease

Fabry disease opportunity

Tom, living with Fabry disease

Caused by mutation in gene encoding for alpha-galactosidase A enzyme

Standard of care (SOC): ERT

- Not curative, relentless progression of disease continues
- Burdensome and expensive – bi-weekly ERT infusions required; 5-year treatment cost of ERT = ~$1.7 million*

Unmet needs with SOC:

Kidney function
Proteinuria, polyuria, kidney failure

Cardiac function
Left ventricular hypertrophy, fibrosis, heart failure

Neuropathic pain
Pain and burning sensations in hands and feet, pain crises

Everyday burden of illness, and life expectancy
Not curative, relentless progression of disease, shortened lifespan

CNS complications
TIA/stroke, depression, executive function deficit, white matter lesions

Fabry Disease Target Product Profile**:

- Prevents, halts or reverses disease; extends/normalizes lifespan
- Addresses all patient segments – all genetic mutations, male and female, all ages
- Lifelong durability – single infusion; off ERT
- Impacts hard-to-reach organs – e.g., brain, heart, kidney
- Well tolerated

Affects ~ 1:40,000 males and 1:118,000 females in U.S.

** WAC pricing from Redbook using standard dosing assumptions*
*** Note: these are target attributes for a first-line therapy*

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Two AVR-RD-01 Fabry clinical trials

14 patients dosed across Phase 1 and 2

PHASE 1

Investigator-Sponsored Trial*

FULLY ENROLLED

OBJECTIVES	PATIENTS
• Safety and tolerability • Preliminary efficacy	• n = 5 patients • 18 – 59 year-old males • On ERT >6 months prior to enrollment

PHASE 2

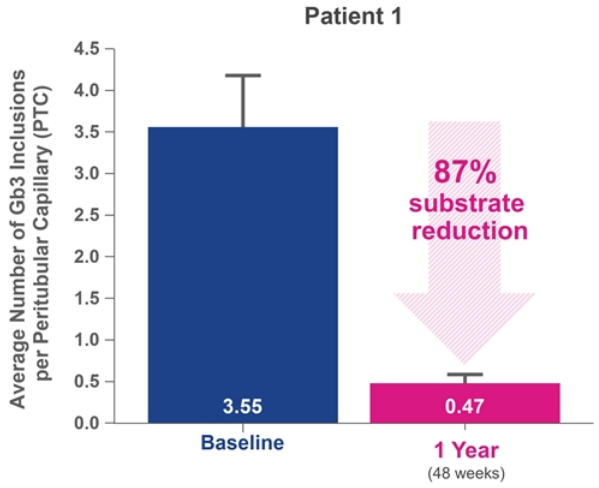
AVROBIO FAB-GT Trial **

ACTIVELY RECRUITING

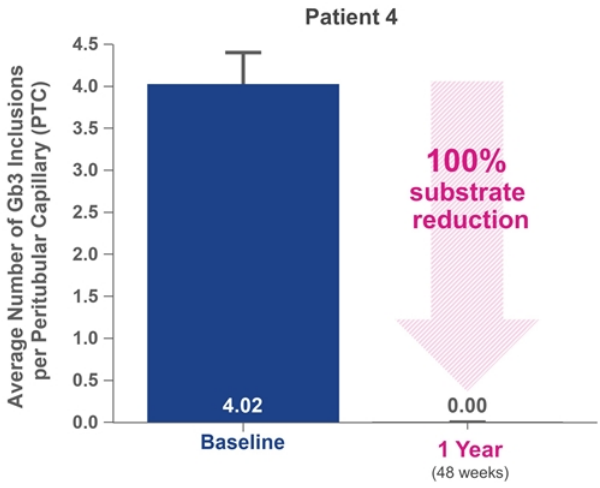
OBJECTIVES	PATIENTS
• Safety and tolerability • Efficacy	• n = 8-12 patients*** (9 dosed to-date) • 16 – 50 year-old males *** • Treatment naïve

** Sponsored by FACTs team (Fabry Disease Clinical Research and Therapeutics) in Canada*
*** FAB-GT f/k/a FAB-201*
**** Protocol amendment submitted to FDA increasing enrollment to up to 14 patients, including females. Plan to submit same protocol amendment in other jurisdictions.*

Clinically meaningful and statistically significant reduction in substrate in first two evaluable kidney biopsies



Two-sample t-test for difference between average PTCs at Baseline vs. 48 weeks; $p < 0.0001$; Error bar represents the standard error at Baseline (n=48 PTCs) and 48 weeks (n=101 PTCs). Scored by 2 independent, blinded pathologists



Two-sample t-test for difference between average PTCs at Baseline vs. 48 weeks; $p < 0.0001$; Error bar represents the standard error at Baseline (n=103 PTCs) and 48 weeks (n=99 PTCs). Scored by 2 independent, blinded pathologists

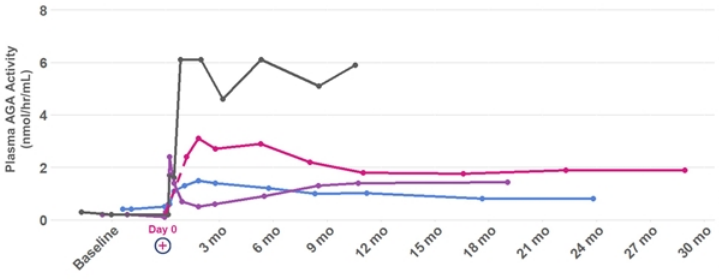
Baseline: The last available, non-missing observation prior to AVR-RD-01 infusion
Note: With respect to Fabry disease, Gb3 inclusions per PTC is interchangeable with GL-3 inclusions per KIC
PTC: Peritubular Capillary; Gb3: Globotriaosylceramide; GL-3: Globotriaosylceramide; KIC: Kidney Interstitial Capillary

FABRY PHASE 2

Durability demonstrated over multiple measures up to 2.5 years

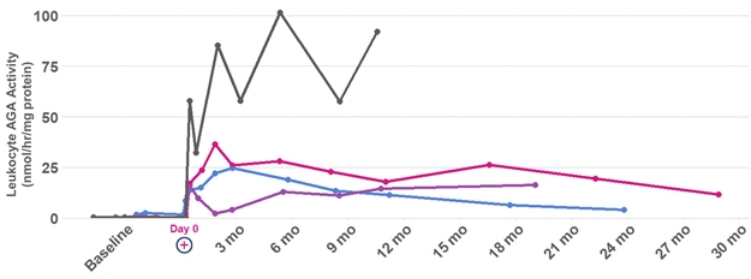
Patient 4 dosed using plato®

Plasma AGA Enzyme Activity



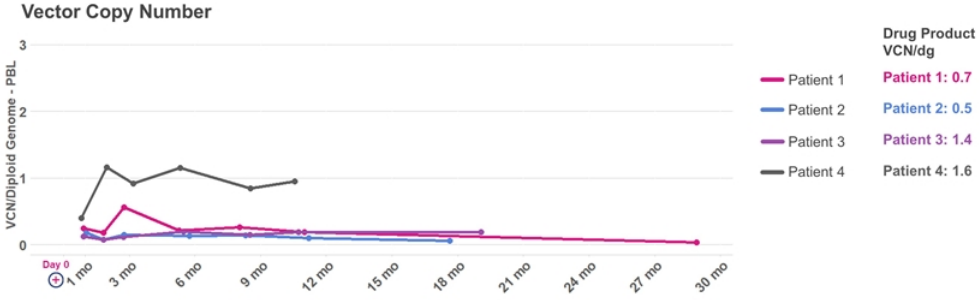
Plasma AGA Activity Reference Range: 5.1–9.2 nmol/hr/mL; AGA: α-galactosidase A

Leukocyte AGA Enzyme Activity



Leukocyte AGA Activity Reference Range: 24–56 nmol/hr/mg protein; AGA: α-galactosidase A

Vector Copy Number



VCN: Vector Copy Number; PBL: Peripheral Blood Leukocytes; dg: Diploid Genome

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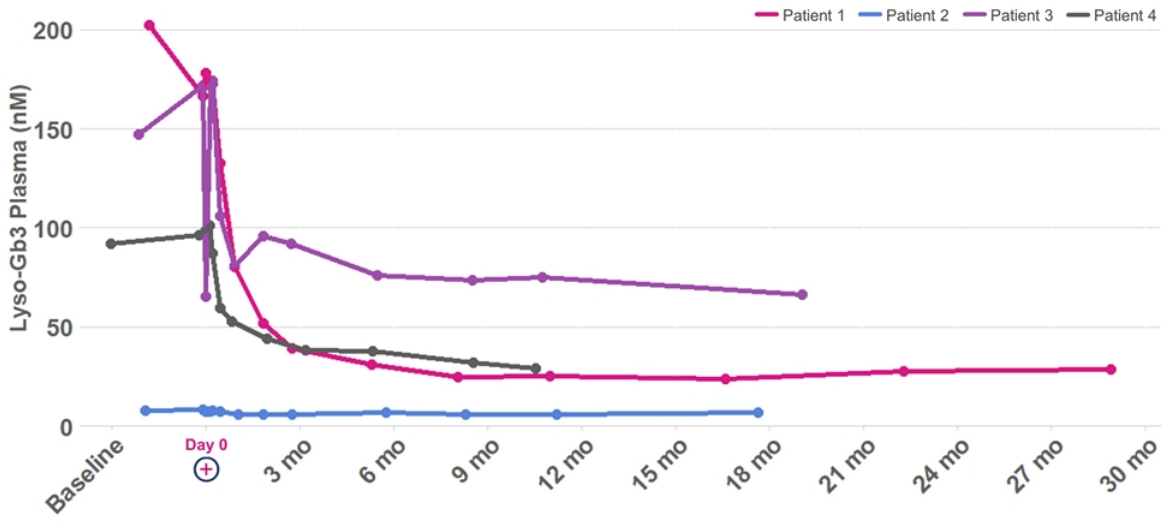
FABRY PHASE 2

70% average plasma lyso-Gb3 reduction



Reduction from Baseline to Last Observation	
Patient 1	86%
Patient 2	N/A
Patient 3	55%
Patient 4	69%

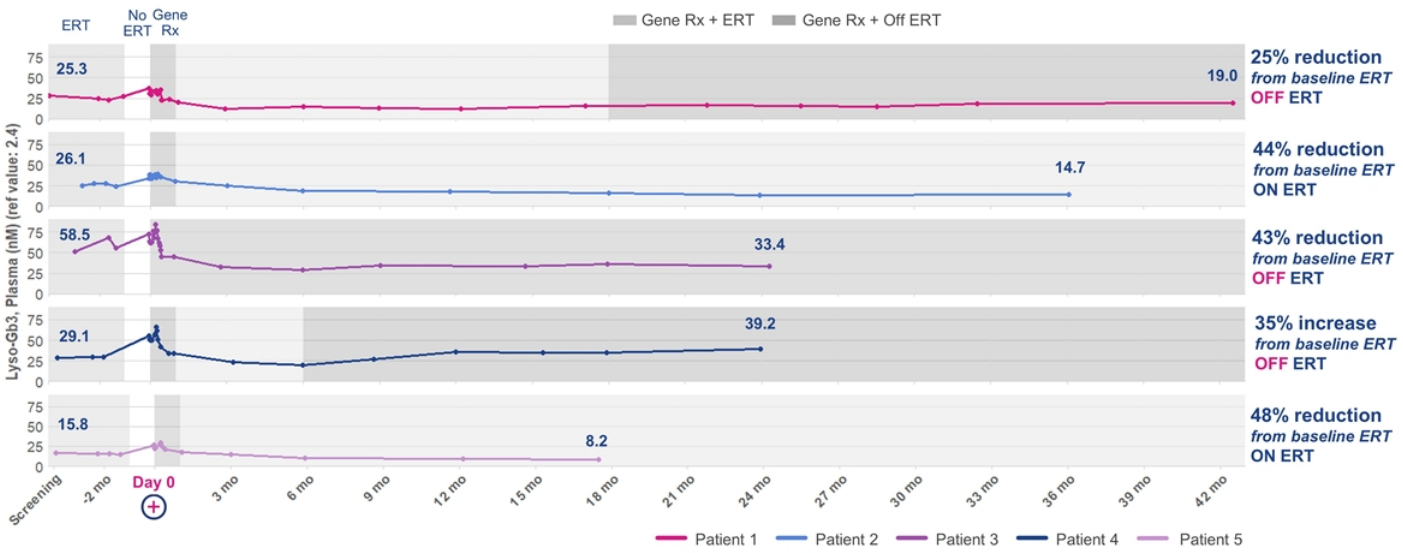
Lyso-Gb3 Plasma Reference Value: 2.4 nM; Lyso-Gb3: Globotriaosylsphingosine
Note: Patient 2 has normal substrate, consistent with late-onset cardiac variant phenotype

AVROBIO plato

FABRY PHASE 1

25% average plasma lyso-Gb3 reduction below baseline ERT

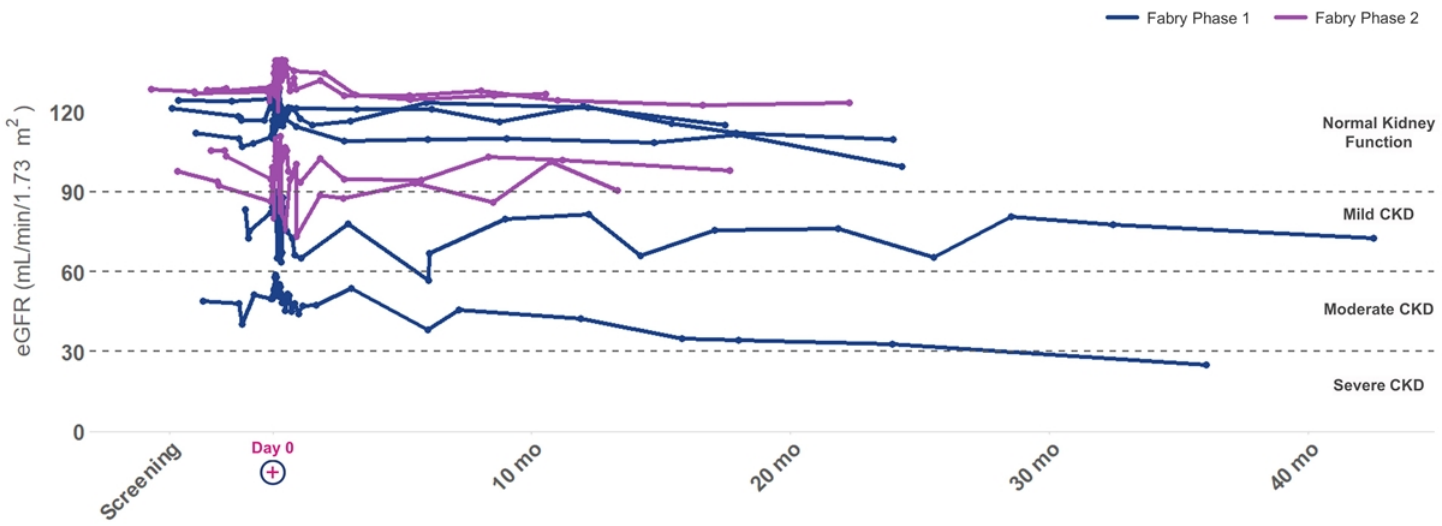
All patients who have discontinued ERT remain off ERT*



** As of January 11, 2021*

Lyso-Gb3: Globotriaosylsphingosine; ERT: Enzyme Replacement Therapy; Rx: Therapy

Kidney function (eGFR) stable up to 3.5 years*



** Eight of nine patients stable; other patient entered trial with more advanced kidney disease and a baseline eGFR level <50 mL/min/1.73m2; as expected, this patient has not stabilized, and the patient remains on ERT*

Note: eGFR was calculated using the CKD-EPI formula

eGFR: Estimated Glomerular Filtration Rate; CKD: Chronic Kidney Disease; CKD-EPI: Chronic Kidney Disease Epidemiology Collaboration

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No unexpected safety events or trends identified

Based on data from 13 patients treated with AVR-RD-01 in phase 1/2 studies

No SAEs or AEs related to drug product AVR-RD-01

SAEs & AEs reported

Phase 1 AEs (n=92)

- Generally consistent with myeloablative conditioning, protocol mandated-drugs, underlying disease or pre-existing conditions
  - Grade 3 or 4 (n=13)

Phase 1 SAEs (n=2)

Post gene therapy treatment

- Febrile neutropenia (1 patient, Grade 3)
- Thrombophlebitis (1 patient, Grade 2)

Phase 2 AEs (n=193)

- Generally consistent with myeloablative conditioning, protocol mandated-drugs, underlying disease or pre-existing conditions
  - Grade 3 or 4 (n=31)

Phase 2 SAEs (n=9)

Pre gene therapy treatment and prior to conditioning

- Seizure (1 patient, Grade 2)

Post gene therapy treatment

- Dehydration, nausea, vomiting (1 patient, Grade 3)
- Odynophagia (1 patient, Grade 3)
- Thrombocytopenia (1 patient, Grade 3)
- Febrile neutropenia (2 patients, Grade 3)
- Culture negative fevers (1 patient, Grade 2)
- Mucositis (1 patient, Grade 2)
- Dysphagia (1 patient, Grade 1)

Phase 1 safety data cut-off July 26, 2021; Phase 2 safety data cut-off August 20, 2021
AE: Adverse Event; SAE: Serious Adverse Event

Cystinosis

Cystinosis opportunity

Jaxon, living with cystinosis

Caused by CTNS gene defect, resulting in cystine buildup in lysosomes

Standard of care (SOC): Cysteamine pills & eye drops

- Not curative, relentless progression of disease continues; significantly shortened lifespan; kidney transplant often required
- Burdensome and expensive – high pill burden and hourly eye drops; 5-year treatment cost with SOC ~$4.3 million*

Unmet needs with SOC:

Kidney function
Renal Fanconi syndrome, proteinuria, CKD, kidney failure

Vision
Corneal cystine accumulation, photophobia, involuntary eyelid closure

Endocrine disorders
Softening & deformation of bones, hypothyroidism, diabetes, infertility

CNS complications
Myopathy, hypotonia, tremors, swallowing, neurodevelopmental issues

Everyday burden of illness, reduced life expectancy
High pill burden causes GI discomfort; sulfur body odor and breath

Cystinosis Target Product Profile**:

- Prevents, halts or reverses disease; extends/normalizes lifespan
- Addresses all patient segments – male & female; kidney transplant independent; all ages
- Lifelong durability – single infusion; off cysteamine pills and eye drops
- Impacts hard-to-reach organs – e.g., eye, endocrine organs, brain
- Well tolerated

Affects ~ 1:170,000 people

** WAC pricing from Redbook using standard dosing assumptions*
*** Note: these are target attributes for a first-line therapy*

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Steady enrollment in AVR-RD-04 IST trial in cystinosis

PHASE 1/2
AVR-RD-04

ACTIVELY RECRUITING:

OBJECTIVES	PATIENTS
• Safety and tolerability • Hypothesis generation of endpoints	• Up to 6 patients (3 patients dosed to date) • Adults and adolescents • Cohorts 1-2 >18 years; Cohort 3 >14 years • Male and female • Oral and ophthalmic cysteamine

AVR-RD-04 trial sponsored by University of California, San Diego; IST does not use plato® platform
Note: AVR-RD-04 a/k/a CTNS-RD-04
IST: Investigator Sponsored Trial
Clinical trial funded in part by grants to UCSD from the California Institute for Regenerative Medicine (CIRM), Cystinosis Research Foundation (CRF) and National Institutes of Health (NIH)

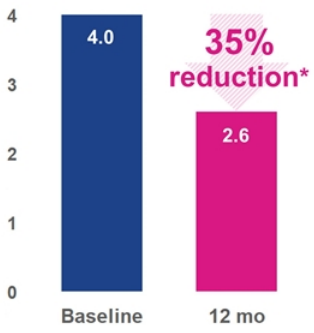
AVROBIO powered by plato

CYSTINOSIS PHASE 1/2: PATIENT 1

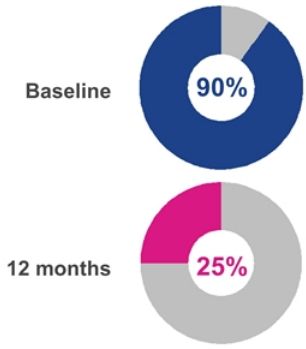
Sharp drop in the number and size of cystine crystals in skin and rectal biopsies

Skin Biopsy

Average intracytoplasmic crystals per cell

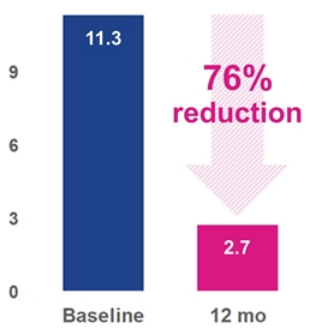


Occupancy of cytoplasmic volume

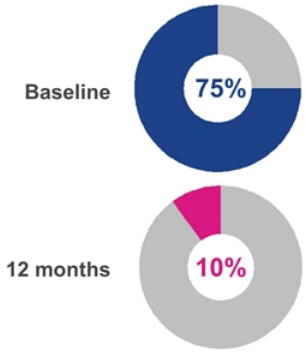


Rectal Biopsy

Average intracytoplasmic crystals per cell



Occupancy of cytoplasmic volume



Note: These results are for a single patient only and may vary in the study population
** Calculation of reduction in average intracytoplasmic crystals per cell in skin biopsy revised based on baseline value of 4.0 (vs. 4.6 as shown in previous presentations)*

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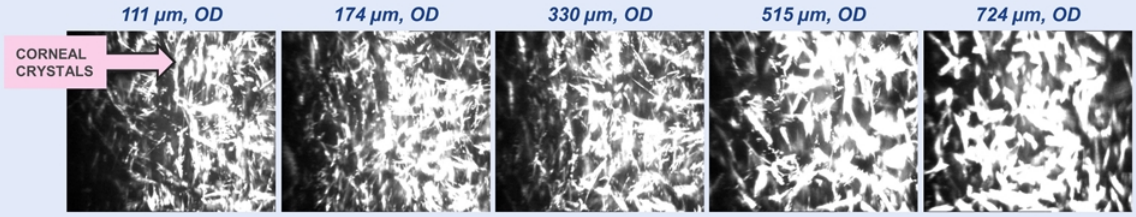
CYSTINOSIS PHASE 1/2: PATIENT 1

Substantial decline in corneal crystals observed at 1 year

***Front** of cornea* — ***Back** of cornea*

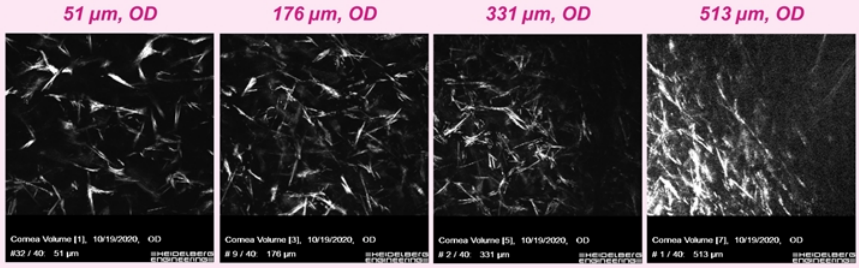
Baseline

IVCM images from Nidek Confoscan



12 months post-gene therapy

IVCM images from Heidelberg HRT3 w/ Rostock Corneal Module



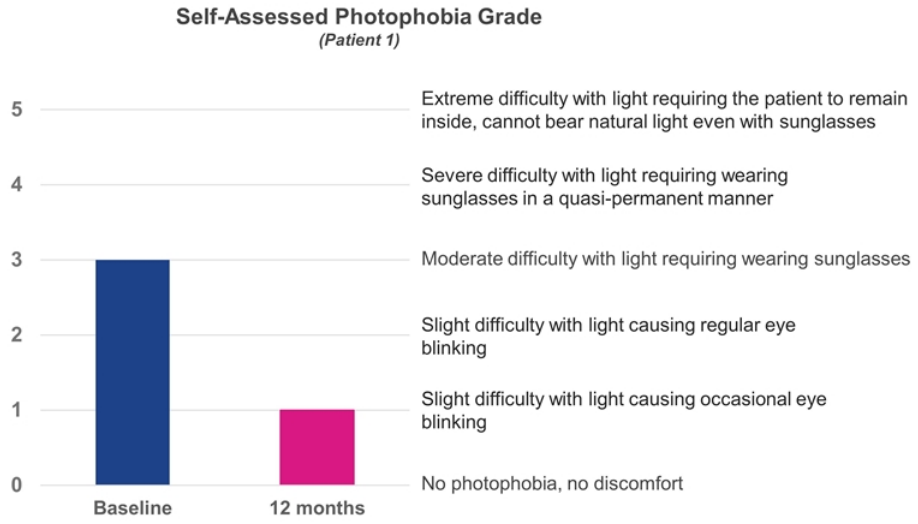
Note: These results are for a single patient only and may vary in the study population; IVCM: In Vivo Confocal Microscopy; OD: Oculus Dexter (right eye); HRT3: Heidelberg Retina Tomograph 3

Photophobia improved meaningfully at 1 year

Photophobia, or extreme sensitivity to light, is a hallmark of cystinosis

Cystinosis photophobia intensity associated with:

- Crystal density (light scattering)
- Inflammatory cell infiltration
- Corneal nerve damage



Liang, H. IONS May 2015

Darker pigmentation may be a sign of multi-functional cystinosin activity post-gene therapy

Cystinosin is located in melanosomes and regulates melanin synthesis

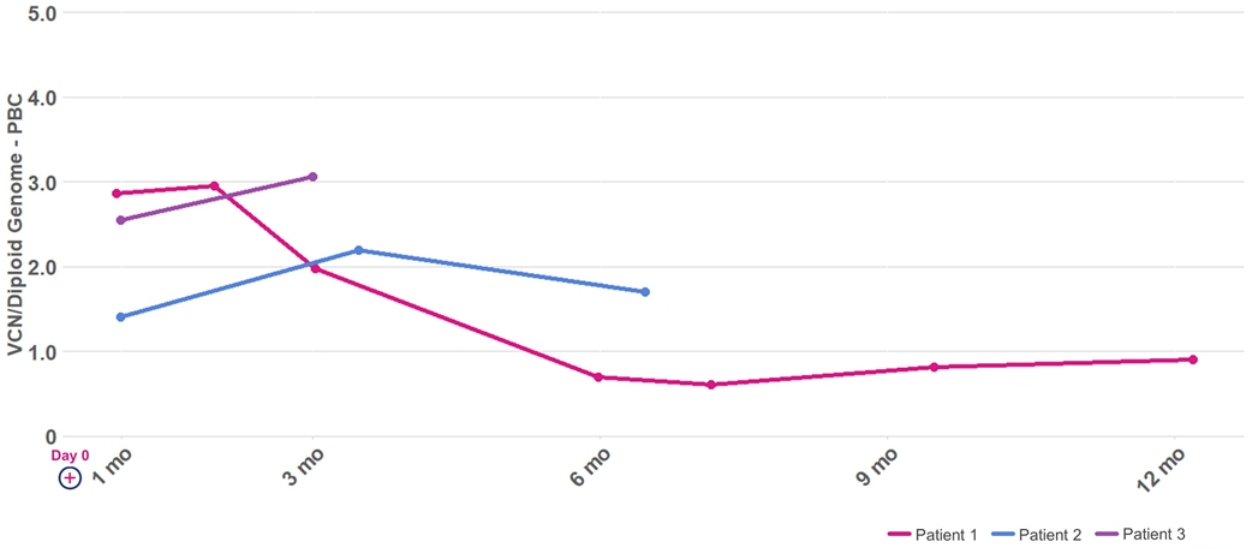
Patient 1 appears to exhibit **progressively darkening skin, eyebrows and hair color post-infusion**, suggesting a possible impact of cystinosin protein on melanin

Note: These results are for a single patient only and may vary in the study population; Background removed for clarity
Source: Chiaverini et al., FESEB, 2012

VCN trending as expected across patients

Patient 1 reached VCN therapeutic plateau

DRUG PRODUCT VCN/dg	
Patient 1	2.1
Patient 2	1.3*
Patient 3	1.6



** From second apheresis*
VCN: Vector Copy Number; PBCs: Peripheral Blood Cells; dg: Diploid Genome

No unexpected safety events

Conditioning-related side effects have been manageable and transient

No SAEs or AEs related to AVR-RD-04 drug product

AEs & SAEs reported

- AEs (n=53)
  - Majority of AEs are mild or moderate and resolved
- SAE (n=1)
  - Post AVR-RD-04 treatment: appendicitis unrelated to study treatment or procedures

- AEs are generally consistent with myeloablative conditioning or underlying disease:

Pre-AVR-RD-04 treatment and prior to conditioning (not all events listed)
- Diarrhea, hypokalemia, dizziness
- Dehydration, vomiting

Post-AVR-RD-04 treatment (not all events listed)
- Alopecia, intermittent diarrhea, vomiting, loss of appetite
- Mucositis, intermittent febrile neutropenia, intermittent epistaxis
- Intermittent blurry vision, intermittent hypokalemia, mucoceles
- Thrombocytopenia

Note: Safety database cut as of May 17, 2021
AE: Adverse Event; SAE: Serious Adverse Event


Gaucher type 1

Gaucher disease type 1 opportunity

Adrianna, living with Gaucher disease type 1

Caused by mutation in the gene encoding for glucocerebrosidase (GCase) enzyme

Standard of care (SOC): ERT

- Not curative, relentless progression of disease continues, including bone crisis and fatigue
- Burdensome and expensive – bi-weekly infusions required; 5-year treatment cost with ERT = ~$2.3 million*

Unmet needs with SOC:

Bone-related manifestations
Skeletal abnormalities, avascular necrosis, osteoporosis

Hemoglobin levels and platelet counts
Anemia, thrombocytopenia, easy bruising, bleeding

Hepatosplenomegaly
Enlarged liver, enlarged spleen

Everyday burden of illness, and life expectancy
Fatigue, pain, lung disease, biweekly infusions, shortened lifespan

CNS complications
Increased risk of GBA-Parkinson's disease

Gaucher disease Type 1 Target Product Profile**:

- Prevents, halts or reverses disease; extends/normalizes lifespan
- Addresses all patient segments – all GD1 genetic mutations, all ages, male & female
- Lifelong durability – single infusion; off ERT/chaperone therapy
- Impacts hard-to-reach organs – e.g., brain, bone and bone marrow
- Well tolerated

Affects ~ 1:44,000 people worldwide

** WAC pricing from Redbook using standard dosing assumptions*
*** Note: these are target attributes for a first-line therapy*

Guard1: Phase 1/2 study in Gaucher disease type 1

PHASE 1/2

AVR-RD-02

An **adaptive, open-label, multinational phase 1/2 study of the safety and efficacy** of *ex vivo*, lentiviral vector-mediated gene therapy AVR-RD-02 for patients with Gaucher disease type 1

ACTIVELY RECRUITING:

OBJECTIVES	PATIENTS

• Safety
• Efficacy
• Engraftment
	• Enrollment goal 8-16 patients
	  • 2 patients dosed to date
	• 18-45-year-old males and females
	• Have a confirmed diagnosis of GD1 based on:
	  – Deficient glucocerebrosidase enzyme activity
	  – Clinical features consistent with GD1

Gaucher disease type 1 patients who are:

- ERT-stable for >24 months *or*
- Treatment-naïve *or*
- Have not received ERT or SRT in the last 12 months

GD1: Gaucher Disease Type 1; ERT: Enzyme Replacement Therapy; SRT: Substrate Reduction Therapy

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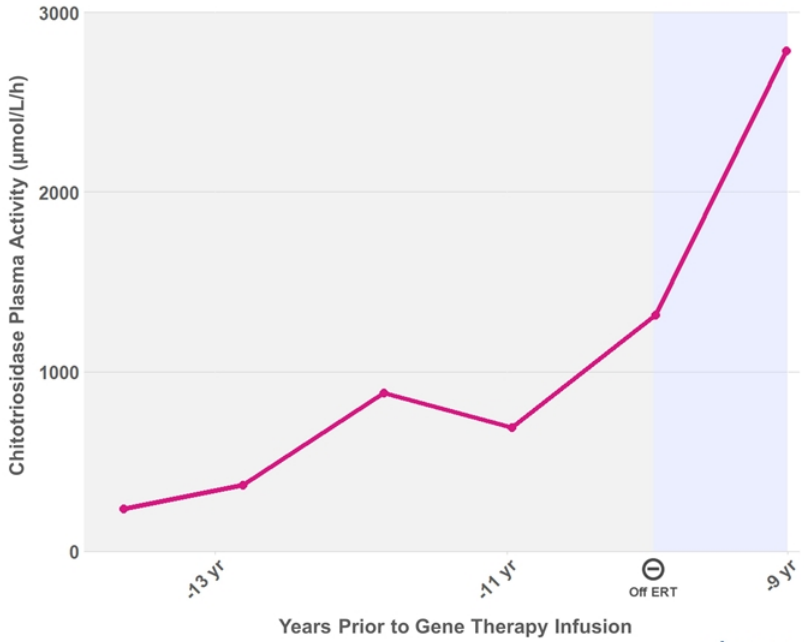
First patient's plasma chitotriosidase levels spike off ERT

Personal history documents response to intermittent and halted ERT use

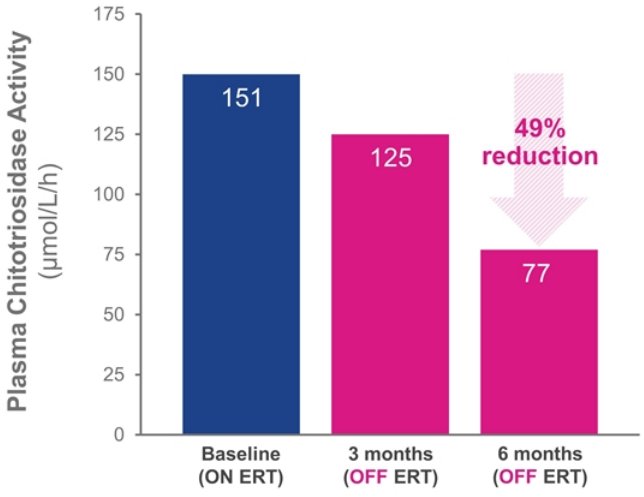
Chitotriosidase is a marker of inappropriately activated macrophages (Gaucher cells)



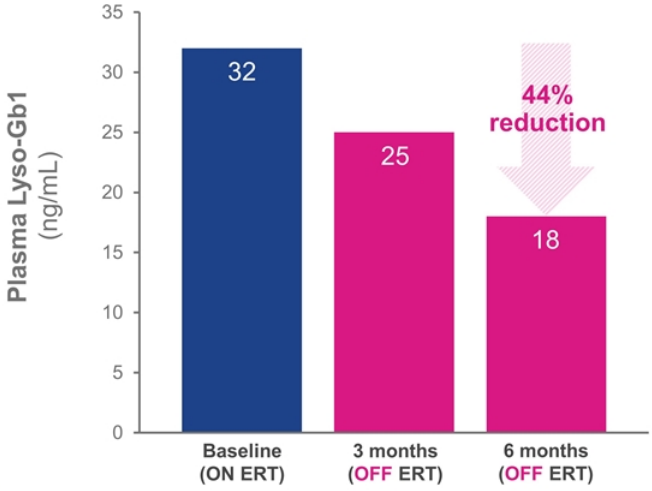
Chitotriosidase Plasma Activity Normal Range: 0.0–44.2 µmoL/L/h
ERT: Enzyme Replacement Therapy

Key biomarkers below ERT baseline at 6 months

Chitotriosidase is a marker of inappropriately activated macrophages (Gaucher cells)



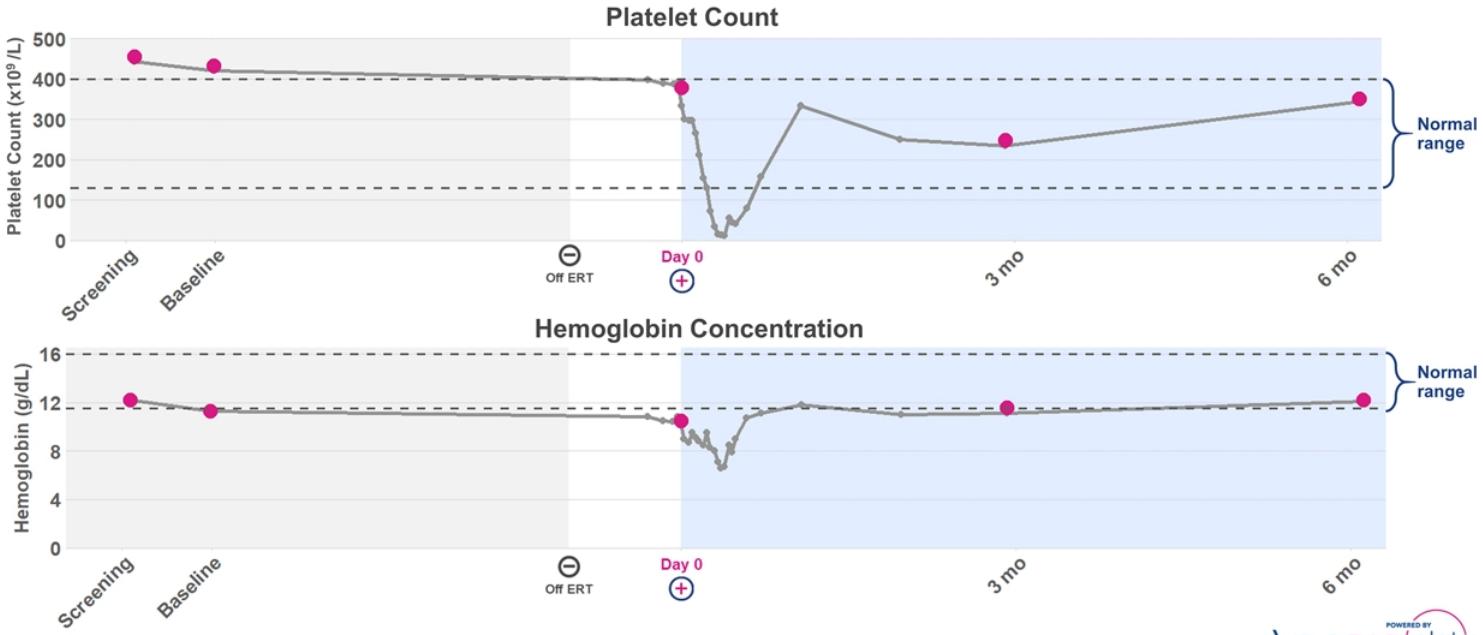
Lyso-Gb1 is a sensitive and specific marker of toxic metabolite accumulation in Gaucher disease



Baseline taken one month prior to gene therapy which is when ERT is discontinued
Lyso-Gb1 Plasma Normal Range: 0.5 – 1.2 ng/mL
Plasma chitotriosidase activity normal range: 0.0 – 44.2 µmoL/L/h
ERT: Enzyme Replacement Therapy

GUARD1: PATIENT 1

Platelet counts and hemoglobin in normal range at 6 months, despite being off ERT

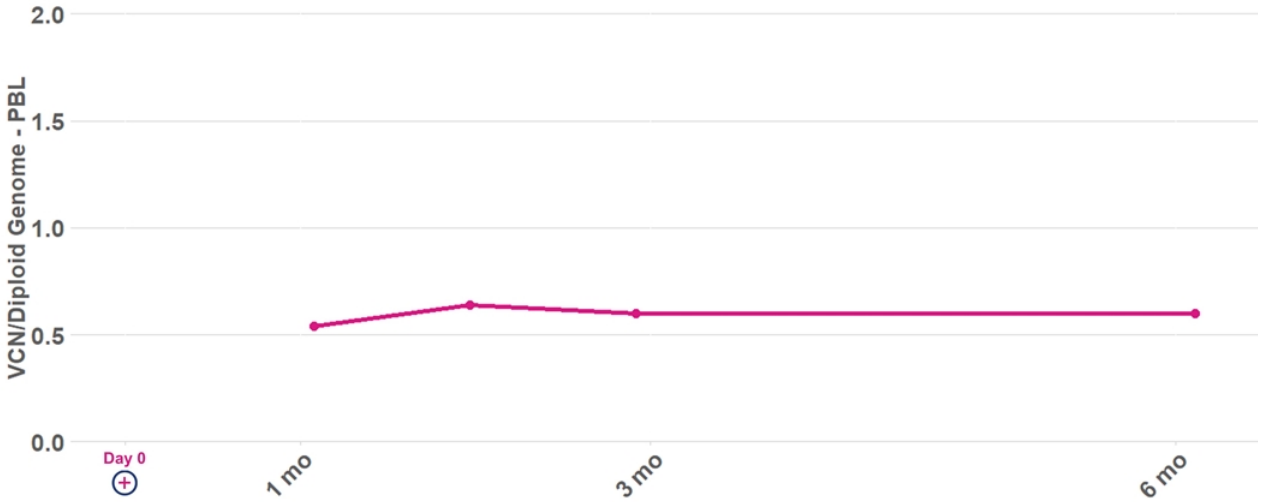


Platelet Count Reference Value Adult: 130-400x109/L; Hemoglobin Reference Value: Males: 13.5-17.5 g/dL; Females: 11.5-16.0 g/dL; grey line: local (safety) lab values; pink dots: central (efficacy) lab values; ERT: Enzyme Replacement Therapy

GUARD1: PATIENT 1

VCN trending as expected at 6 months

Drug Product VCN/dg	
Patient 1	3.7



VCN, vector copy number; PBL, peripheral blood leukocytes; dg, diploid genome

No unexpected safety events 12+ months post dosing

No SAEs or AEs related to drug product

AEs are consistent with myeloablative conditioning, drugs mandated by protocol or study procedures, underlying disease and pre-existing conditions

No SAEs reported

AEs reported, n= 37

Event severity assessment

- 26 AEs were Grade 1 or Grade 2
- 11 AEs were Grade 3 or 4
  - Anemia, leukopenia, neutropenia, thrombocytopenia, eye pain, decreased appetite, dehydration, headache, hypophosphatemia, amenorrhea*

Event causality assessment

- 21 AEs definitely, probably or possibly related to busulfan (N= 1 patient dosed)
- 8 AEs definitely, probably or possibly related to G-CSF** (N= 2 patients enrolled)
- 1 AE definitely, probably or possibly related to Plerixafor (N= 2 patients enrolled)

AVR-RD-02 has not been approved by the FDA or by any other regulatory body and its safety and efficacy has not been established
Note: Safety database cut as of August 31, 2021
AE, adverse event; SAE, serious adverse event; G-CSF, granulocyte colony stimulating factor
** Unresolved and ongoing as of the safety database cut of August 31, 2021*
***Two of the AEs, dehydration and decreased appetite, are noted as related to both G-CSF and busulfan administrations*

Gaucher type 3

Gaucher disease type 3 opportunity

Maddie, living with Gaucher disease Type 3

Subacute neurological form of Gaucher disease characterized by progressive encephalopathy and associated with the systemic manifestations of Gaucher type 1

Standard of care (SOC): ERT

- Not curative, relentless progression of disease continues; utility of ERT minimized by its inability to impact the CNS
- Burdensome and expensive – bi-weekly infusions required; 5-year treatment cost with ERT = ~$2.3 million*

Unmet needs with SOC:

CNS complications
Seizures, cognitive problems, poor coordination

Bone-related manifestations
Bone crises, bone pain, avascular necrosis

Hemoglobin levels and platelet counts
Anemia, thrombocytopenia, easy bruising, bleeding

Hepatosplenomegaly
Enlarged liver, enlarged spleen

Everyday burden of illness, and life expectancy
Fatigue, pain, shortened lifespan

Gaucher disease Type 3 Target Product Profile**:

- Prevents, halts or reverses disease; normalizes lifespan
- Addresses all patient segments – all genetic mutations, all ages, male & female
- Lifelong durability – single infusion; off ERT/SRT
- Impacts hard-to-reach organs – e.g., brain, bone and bone marrow
- Well tolerated – no ERT-related side effects

** WAC pricing from Redbook using standard dosing assumptions*
*** Note: these are target attributes for a first-line therapy*

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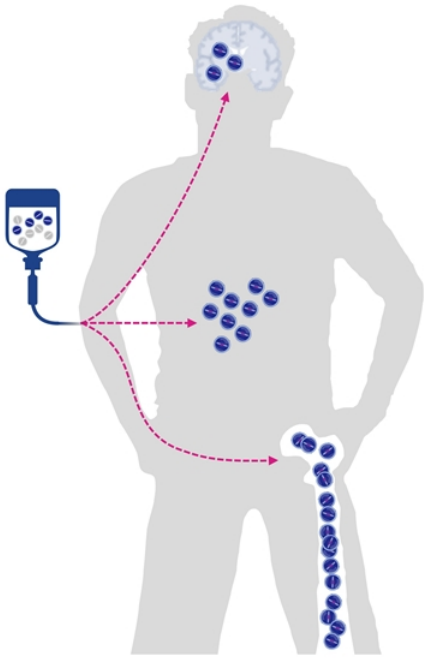
PRECLINICAL DATA

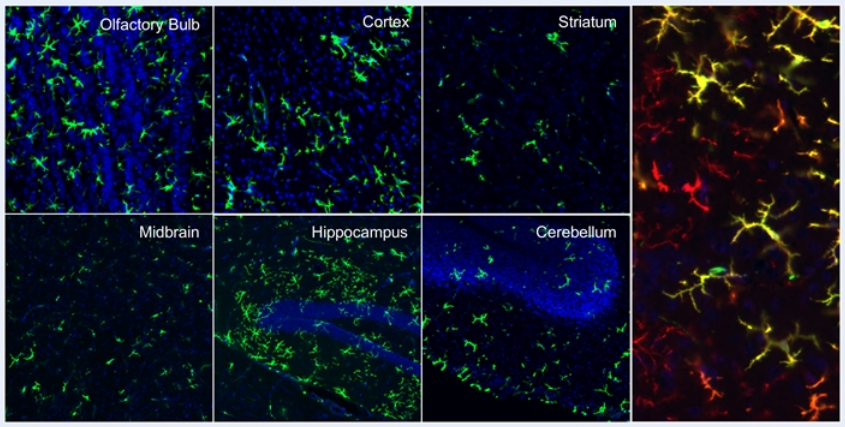
Lentiviral gene therapy enables global distribution of functional enzyme to brain and bone in preclinical studies



PRECLINICAL DATA

Widespread distribution of GFP+ cells in the mouse brain

Colocalization with microglia marker



IV-dosed animal

GFP+ Engrafted Cells DAPI Iba1

GFP: Green Fluorescent Protein; DAPI: 4',6-diamidino-2-phenylindole; Iba1: Ionized Calcium-Binding Adapter Molecule 1; IV: Intravenous

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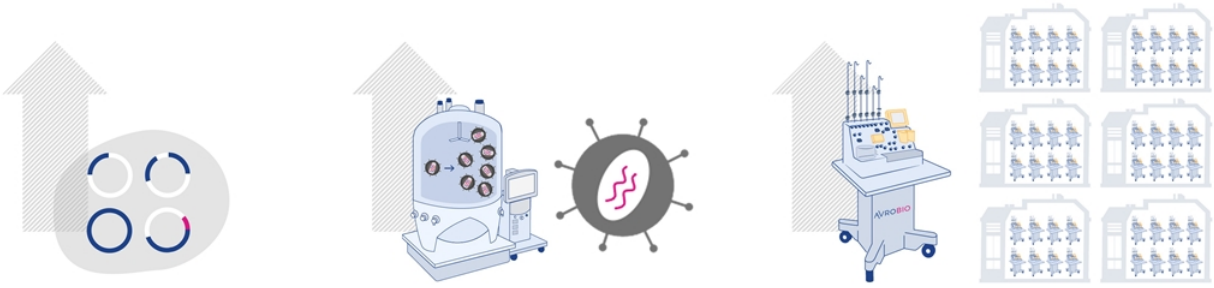
plato®

AVROBIO's platform for global gene therapy commercialization

- Redefines manufacturing best practices
- Solves key industry challenges

Designed to be fully scalable

Common components and automation leveraged across manufacturing



PLASMID

3 of 4 component plasmids used in every vector

Each plasmid can be mass produced and stored for use

VECTOR

State of the art, largest scale, 200L vector production

Expansion through simple installation of additional units, mass produced, frozen, and stored for use

DRUG PRODUCT

Closed system automated platform

Scale out of manufacturing suites and automation units to meet patient demand

Note: This diagram is for illustrative purposes only

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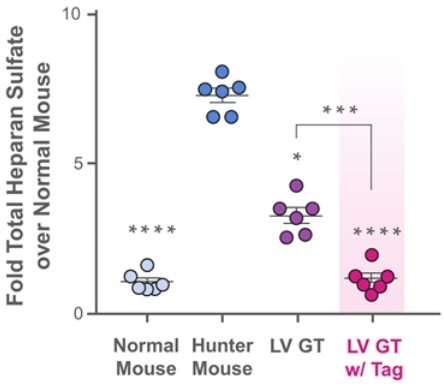
Proprietary tags deliver therapeutic protein into hard-to-reach organs

Hunter syndrome

Tag normalizes heparan sulfate in brain



Pompe disease

Tag normalizes glycogen substrate in brain

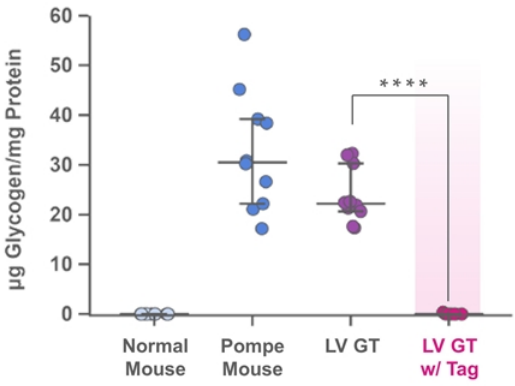
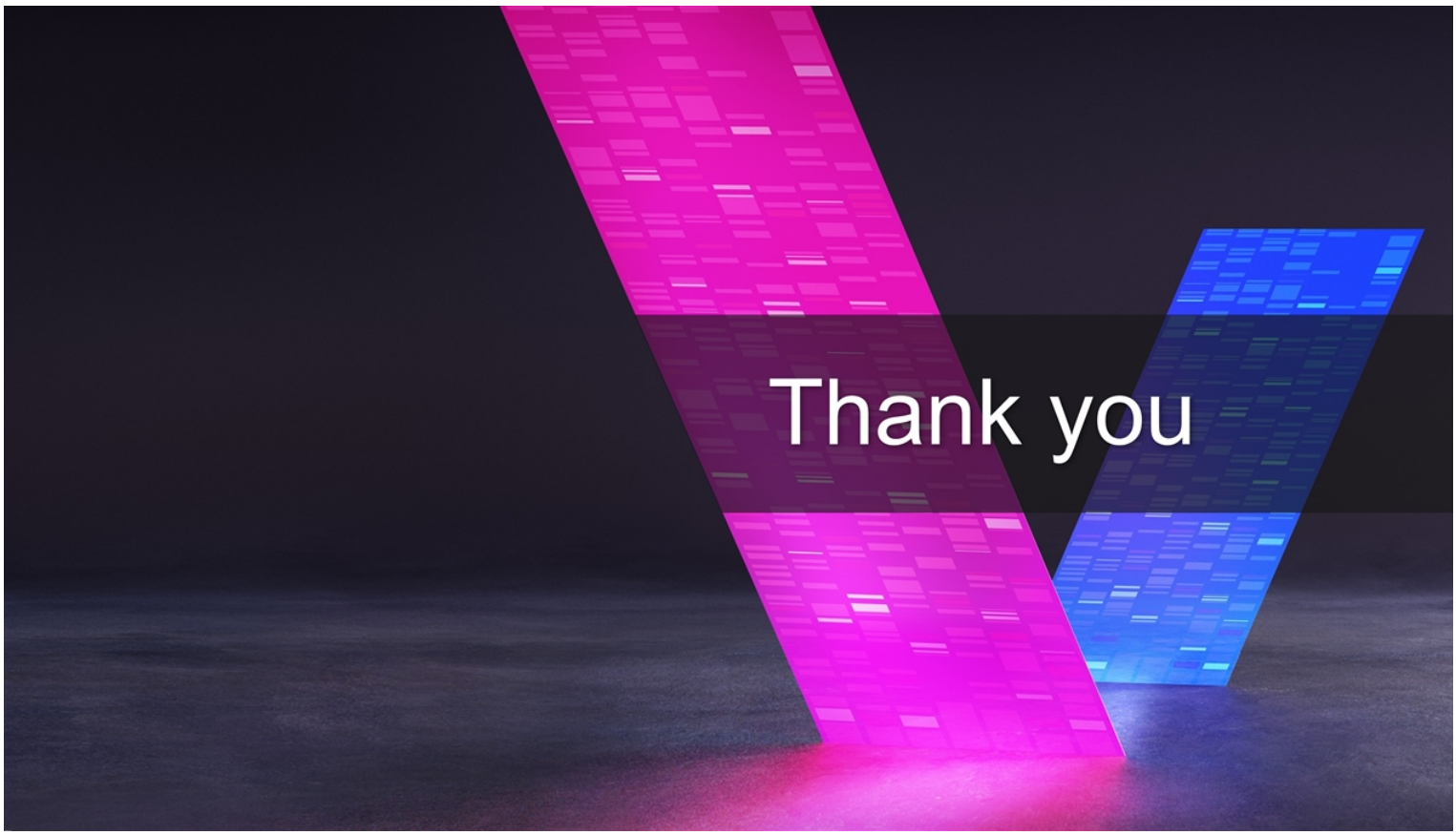


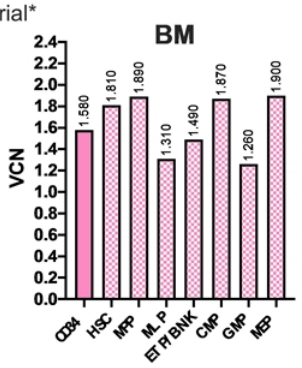
*Figure adapted from Gleitz H et al., EMBO Mol Med, 2018 Fig 3A; *P<0.05, ***P<0.001, ****P<0.0001; LV GT: Lentiviral Gene Therapy*

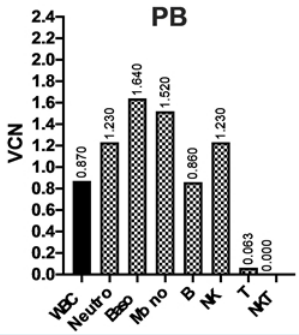

Thank you

Appendix

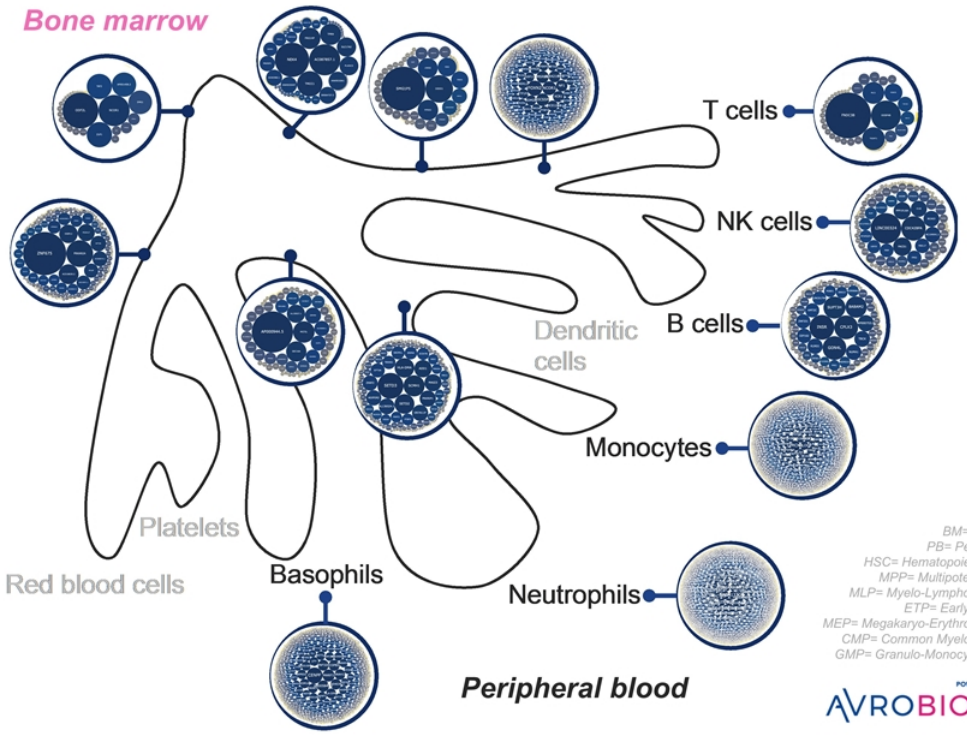
High resolution molecular follow up of gene therapy patients

Patient sample analysis
1-year post-gene therapy
FAB-GT Trial*





*AVR-RD-01 has not been approved by the FDA or any regulatory agency and its safety and efficacy have not been established.

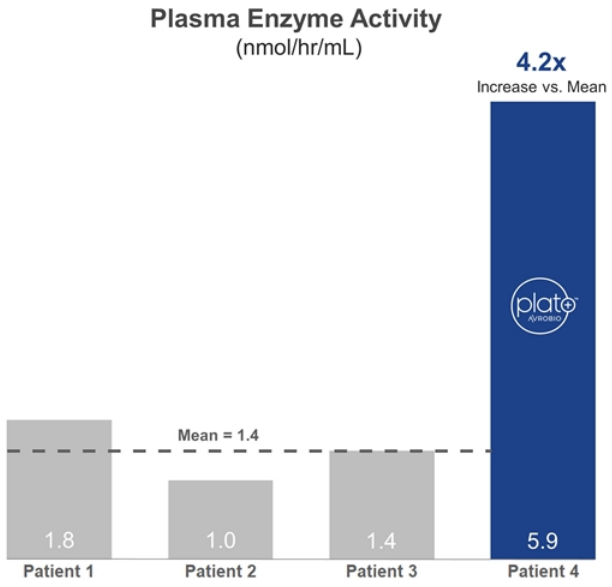


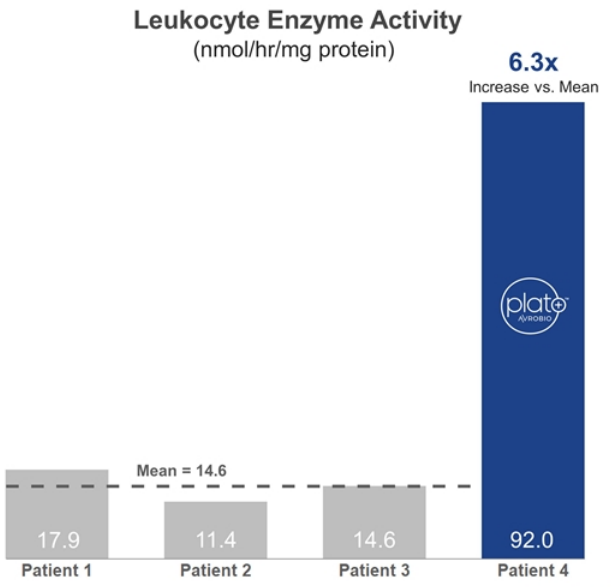
BM= Bone Marrow
PB= Peripheral Blood
HSC= Hematopoietic Stem Cells
MPP= Multipotent Progenitors
MLP= Myelo-Lymphoid Progenitors
ETP= Early T Progenitors
MEP= Megakaryo-Erythroid Progenitors
CMP= Common Myeloid Progenitors
GMP= Granulo-Monocyte Progenitors

AVROBIO POWERED BY plato

Patient #4 is first Fabry patient dosed with plato®

FAB-GT 12 month data for patient #4 with plato® vs. patients #1-3

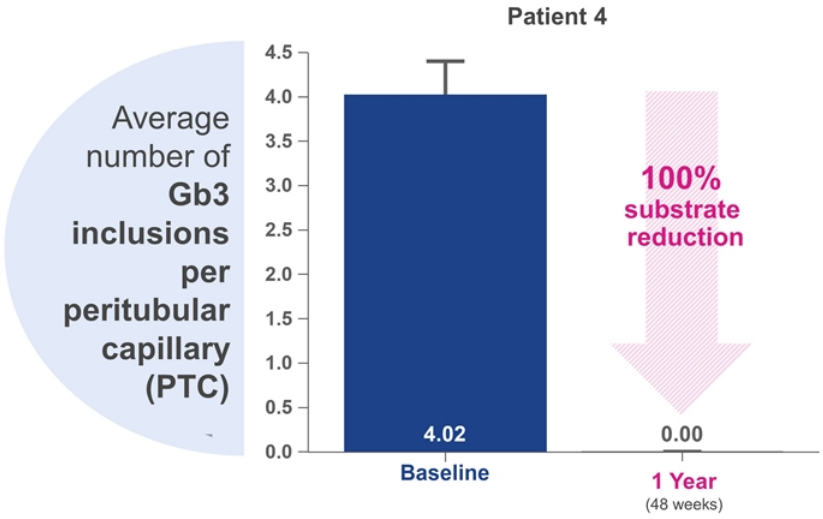




POWERED BY AVROBIO plato

100% clearance of substrate in kidney biopsy at 1 year

Patient dosed using plato®

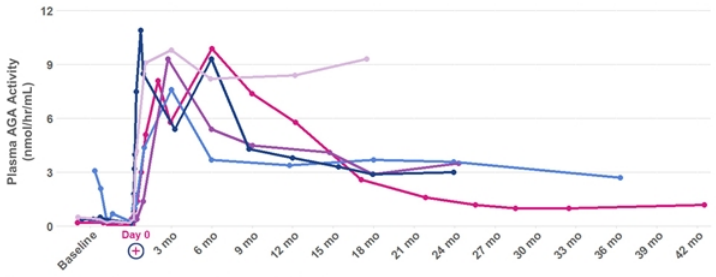


- *Two-sample t-test for difference between average PTCs at Baseline vs. 48 weeks; $p < 0.0001$; Error bar represents the standard error at Baseline (n=103 PTCs) and 48 weeks (n=99 PTCs); scored by 2 independent, blinded pathologists*

Baseline: The last available, non-missing observation prior to AVR-RD-01 infusion
Note: With respect to Fabry disease, Gb3 inclusions per PTC is interchangeable with GL-3 inclusions per KIC
PTC: Peritubular Capillary; Gb3: Globotriaosylceramide; GL-3: Globotriaosylceramide; KIC: Kidney Interstitial Capillary

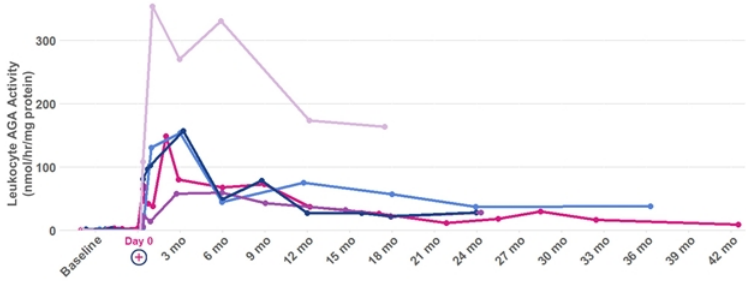
Durability demonstrated over multiple measures up to 3.5 years

Plasma AGA Enzyme Activity



Plasma AGA Activity Reference Range: 5.1–9.2 nmol/hr/mL; AGA: α-galactosidase A

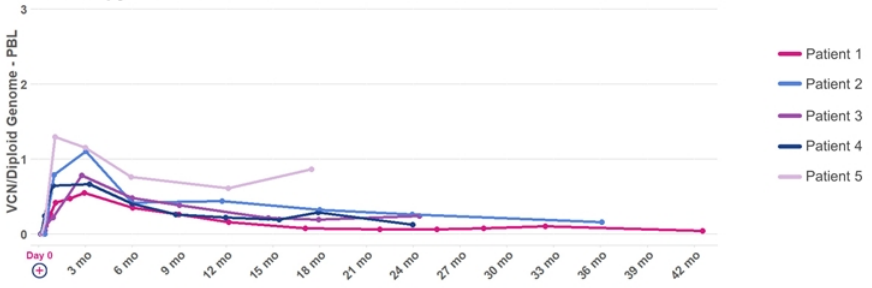
Leukocyte AGA Enzyme Activity



Leukocyte AGA Activity Reference Range: 24–56 nmol/hr/mg protein; AGA: α-galactosidase A

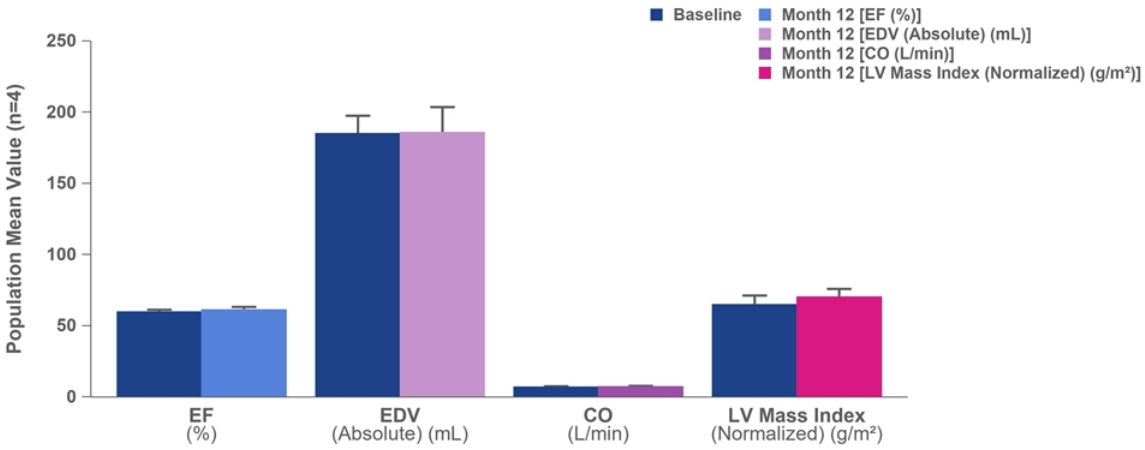
Drug Product VCN/dg
Patient 1: 0.7 **Patient 2: 1.4**
Patient 3: 0.8 **Patient 4: 1.4**
Patient 5: 1.2

Vector Copy Number



VCN: Vector Copy Number; PBL: Peripheral Blood Leukocytes; dg: Diploid Genome

Cardiac function and mass stable across multiple measures up to 1 year

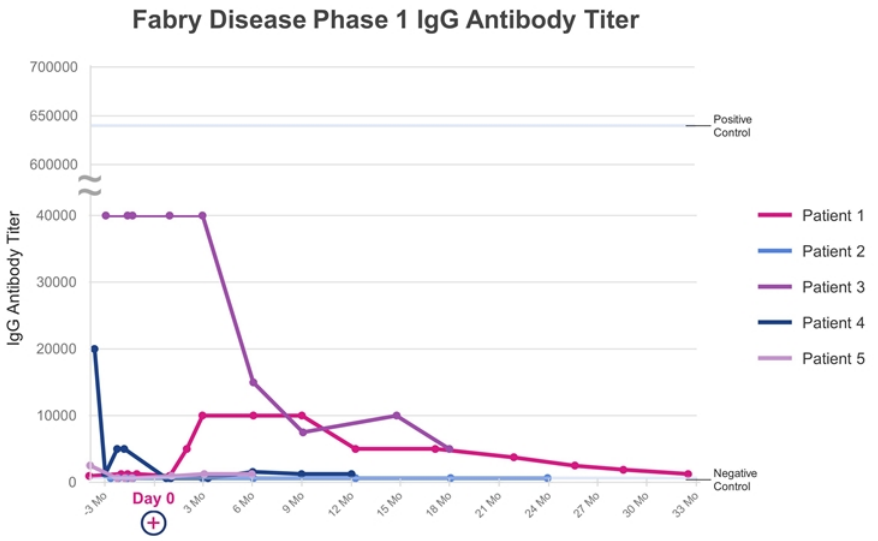


Abbreviations: EF=Ejection Fraction; EDV=End Diastolic Volume; LV=Left Ventricular.
Error bar represents the standard error of the population mean (n=4).
*Reference Range Mean Values Male 20-39 yrs; EF: 64.3 ± 4.2%; EDV: 178.6 ± 30.1 mL; CO: 4-8 L/min; LV Mass Index: 67.8 ± 10.7 g/m²
**Reference Range Mean Values Male 40-49 yrs; EF: 58-75 %; EDV: 117-200 mL; CO: 4-8 L/min; LV Mass Index: 58-91 g/m²

*Source: *Alfakih K et al, J Magn Reson Imaging, 2003 ; **Maceira AM et al, J of Cardiovascular Magnetic Resonance, 2006*

Reduction of pre-existing anti-ERT drug IgG antibodies

Suggests potential as a therapeutic option independent of pre-existing antibodies



Similar results observed in other studies

San Raffaele Telethon Institute for Gene Therapy (SR-TIGET)

Change in pre-existing antibodies reported for Hurler disease (MPS-1)

- *Ex vivo* LV gene therapy with conditioning
- n=6
- Evaluable patients (5/6) demonstrated sustained, supraphysiologic blood IDUA activity
- 4/5 prior ERT (rhIDUA) exposure (5-28 months)
- 4/5 pre-existing ERT-induced IgG antibodies
- 6/6 anti-rhIDUA IgGs undetectable 2 months post-gene therapy

Source: Gentner B et al., Blood, 2019

ERT: Enzyme Replacement Therapy; IgG: Immunoglobulin G; MPS-1: Mucopolysaccharidosis Type 1; IDUA: Iduronidase: SR-TIGET: San Raffaele Telethon Institute for Gene Therapy; LV: Lentiviral; rhIDUA: Recombinant Human alpha-L-Iduronidase

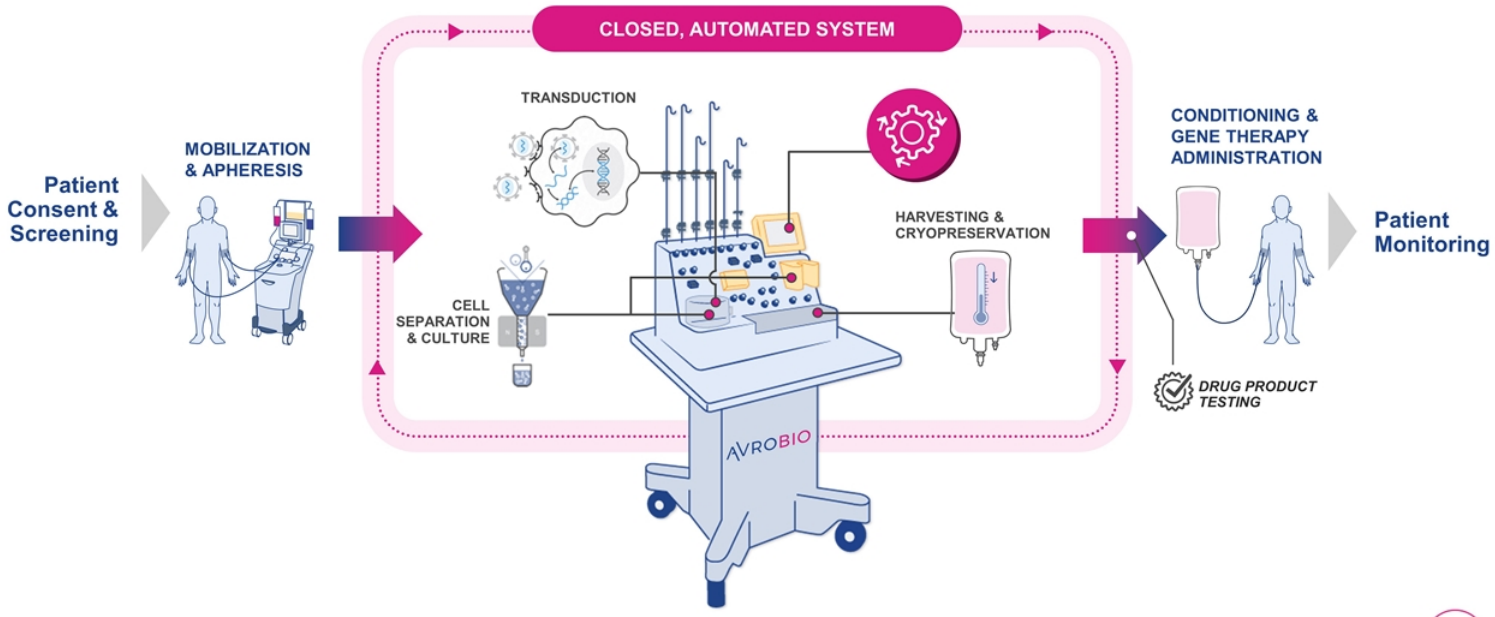
Updated FDA table of surrogate endpoints (as of 3/31/21)

Table of Surrogate Endpoints That Were the Basis of Drug Approval or Licensure | FDA

Disease or Use	Patient Population	Surrogate endpoint	Type of approval appropriate for	Drug mechanism of action
Diphtheria vaccine (in combination vaccines)	Persons to be immunized against diphtheria	Anti-diphtheria toxoid antibody	Traditional	Induction of immunity
Duchenne muscular dystrophy (DMD)	Patients with DMD who have a confirmed mutation of the DMD gene that is amenable to exon 51 skipping	Skeletal muscle dystrophin	Accelerated	Antisense oligonucleotide
Exocrine pancreatic insufficiency	Patients with exocrine pancreatic insufficiency due to cystic fibrosis, chronic pancreatitis, pancreatectomy, or other conditions	Fecal coefficient of fat absorption	Traditional	Combination of porcine-derived lipases, proteases, and amylases
Fabry disease	Patients with confirmed Fabry disease	Complete/near complete clearance of GL-3 inclusions in biopsied renal peritubular capillaries (using the Fabrazyme Scoring System)	Traditional	Enzyme replacement therapy
Fabry disease	Patients with confirmed Fabry disease and amenable *GLA* gene variants	Reduction of GL-3 inclusions in biopsied renal peritubular capillaries (using the BLISS methodology)	Accelerated	Pharmacological chaperone
Female hypogonadotropic hypogonadism	Infertile women with hypogonadotropic hypogonadism	Follicle size, serum estradiol and progesterone#	Traditional	Gonadotropin
First aid antiseptic; Health care antiseptic; Consumer antiseptic	General public, consumers, and health care professionals	Bacterial count	Traditional and Monograph	Antimicrobial
Gout	Patients with gout	Serum uric acid	Traditional	Xanthine oxidase inhibitor; URAT1 inhibitor; Uricase
Hepatitis A (Hep A) vaccine	Persons to be immunized against Hep A	Anti-Hep A antigen antibody	Traditional	Induction of immunity
Hepatitis B (Hep B) vaccine	Persons to be immunized against Hep B	Anti-Hep B antigen antibody	Traditional	Induction of immunity
Hepatitis B Virus (HBV)	Patients with HBV infection with or without cirrhosis	Undetectable plasma HBV-DNA for indefinite treatment or HBsAg loss for finite treatment	Traditional	Antiviral
Hepatitis C Virus (HCV)	Patients with HCV infection with or without cirrhosis	Sustained viral response (HCV-RNA)	Traditional	Antiviral
Hepatitis D Virus (HDV)	Patients with HDV infection with or without cirrhosis	≥ 2 log reduction in HDV-RNA plus normalization of ALT or HDV below the LLOQ*	Accelerated	Antiviral
Hepatorenal syndrome	Patients with hepatorenal syndrome type 1	Serum creatinine*	Traditional	Mechanism agnostic*
Homozygous sitosterolemia (phytosterolemia)	Patients with homozygous sitosterolemia (phytosterolemia)	Plasma sitosterol and campesterol	Traditional	Dietary cholesterol absorption inhibitor

FDA: Food and Drug Administration
Note: FDA guidance provides that the acceptability of a surrogate endpoint in a particular clinical development program should not be assumed to be appropriate for use in a different program.

Unrivaled commercial-scale platform in plato®



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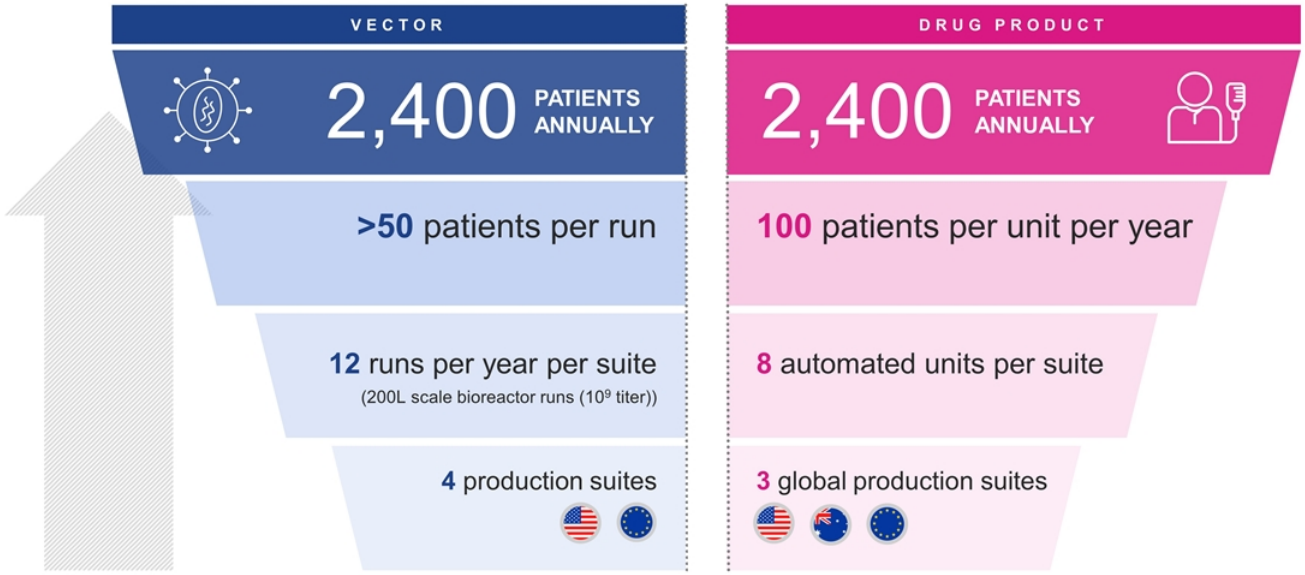
Poised to manufacture at scale

Global infrastructure already in place



Note: This diagram is for illustrative purposes only

CMC achievements have defined the plato® story

Strategic investment in technology laid the foundation for our manufacturing leadership

Manufacturing

Robust production platform

- Best-in-class LV manufacturing
- Scalable from plasmid to drug product

Global footprint

- In the clinic in multiple jurisdictions

Cost effective

- Intended to address key COGs issues

Analytics

Robust platform analytics

- Best-in-class VCN assay
- First-in-class transduction assay

Deep product characterization

- First-in-class single cell analytics

Potency assay matrix

- Intended to accelerate regulatory approvals

CMC: Chemistry, Manufacturing, and Controls; VCN: Vector Copy Number; LV: Lentiviral; COGs: Cost Of Goods