editas MEDICINE

Stephanie and Tristan

Pioneering the Possible in Gene Editing

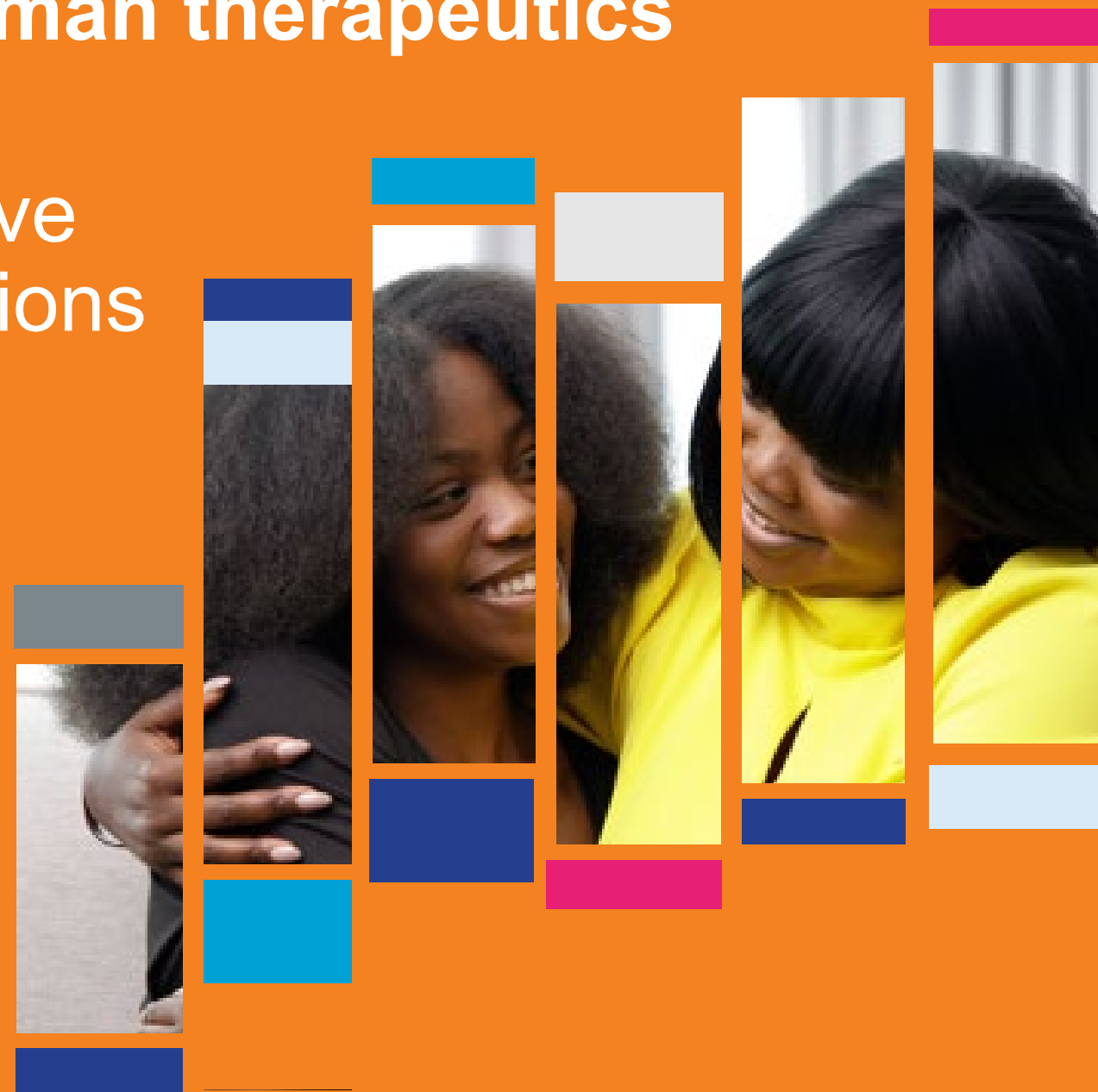
January 2025

Forward Looking Statements

This presentation contains forward-looking statements and information within the meaning of The Private Securities Litigation Reform Act of 1995. The words "anticipate," "believe," "continue," "could," "estimate," "expect," "intend," "may," "plan," "potential," "predict," "project," "target," "should," "would," and similar expressions are intended to identify forward-looking statements, although not all forward-looking statements contain these identifying words. Forward-looking statements in this presentation include statements regarding the initiation, timing, progress and results of the Company's preclinical studies and its research and development programs, including the Company's expectation to declare two development candidates for its *in vivo* programs by mid-2025, establish an additional *in vivo* target cell type/tissue beyond HSCs and the liver by the end of 2025 and achieve *in vivo* proof of concept by 2027; the timing for the Company's receipt and presentation of data from its preclinical studies, including presenting further *in vivo* HSC and liver data in 2025; the potential of, and expectations for, the Company's product candidates; the timing or likelihood of regulatory filings and approvals, including the timing of the Company's submission of any IND or CTA and ability to commence clinical trials for its *in vivo* programs; and the Company's expectations regarding cash runway into the second quarter of 2027. The Company may not actually achieve the plans, intentions, or expectations disclosed in these forward-looking statements, and you should not place undue reliance on these forward-looking statements. Actual results or events could differ materially from the plans, intentions and expectations disclosed in these forward-looking statements as a result of various important factors, including: uncertainties inherent in the initiation and completion of preclinical studies; availability and timing of results from preclinical studies; expectations for regulatory approvals to conduct trials; and the availability of funding sufficient for the Company's foreseeable and unforeseeable operating expenses and capital expenditure requirements. These and other risks are described in greater detail under the caption "Risk Factors" included in the Company's most recent Annual Report on Form 10-K, which is on file with the Securities and Exchange Commission, as updated by the Company's subsequent filings with the Securities and Exchange Commission, and in other filings that the Company may make with the Securities and Exchange Commission in the future. Any forward-looking statements contained in this presentation speak only as of the date hereof, and the Company expressly disclaims any obligation to update any forward-looking statements, whether because of new information, future events or otherwise.

***In vivo* gene editing** – a simple IV infusion to cure a disease – **will transform human therapeutics globally** to the same degree

that mobile smart phones have transformed the communications business around the world.



editas MEDICINE

There is a Solution to the Recent Challenges of Gene Therapy and Gene Editing

Problem

- Recent slow launches
- Low total addressable markets (TAMs)
- Reimbursement challenges
- High cost of goods
- Low margins
- Highly complex patient journeys
- Curative business model
- Many recent gene therapy launches pursued competitive indications with already high standards of care

Solution

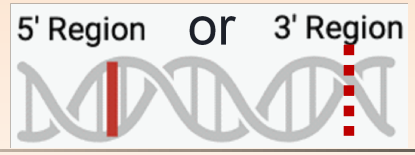
- Differentiated therapeutic approach to diseases
- Diseases with higher TAMs
- Simple, scalable, lower cost of goods
- High margin *in vivo* delivery methods
- Ability to treat more patients with less burdensome treatment regimen
- Sustainable revenue growth for curative medicines through rapid development of therapies

editas MEDICINE

Has the solution

- A different approach focused on functional upregulation treatment strategy (proven by reni-cel).
- Solved for delivery using proprietary, targeted LNPs (tLNPs) that allow targeting of multiple tissues, including HSCs, liver, and other tissues using “plug ‘n play” process.
- Defined path to rapid development of new medicines with “plug ‘n play” *in vivo* editing using reprogrammable guide RNA by changing 20 nucleotides to create a new product for a new disease target.
- A leading gene editing platform supported by foundational IP estate.
- Driven management team with a proven track record of drug development and commercialization, strong domain expertise, and focus on execution.
- Strong cash position with operational runway into Q2 2027.

Editas' Differentiated *In Vivo* Gene Editing Upregulation Strategy Designed to Deliver First-to-Market and Best-in-Class Curative Medicines for Genetic Diseases

	editas MEDICINE	Other Approaches	
Therapeutic strategy	**Functional upregulation***	Knockdown	Gene correction
Gene Editing approach			
Non gene Editing modality		siRNA, antisense oligos, monoclonal antibody, and small molecule (pill)	
Patient population	**All patients (mutation agnostic)**	All patients (mutation agnostic)	Subset of patients (single mutation)
Therapeutic potential	**First/best-in class opportunities for loss of function diseases; cannot be addressed via knockdown**	Diseases that can be addressed by protein reduction similar to ASO and siRNA	Correction limited to subset of all patients with given disease

*editing of regulatory region, e.g., 5' or 3' region to upregulate a wild type allele or functional homolog to address loss of function or deleterious mutations

Reni-cel Provides Proof of Concept for Functional Upregulation Strategy and Validates Editing the *HBG 1/2* Promoter

- Reni-cel treatment showed promising results, with robust and clinically meaningful improvements, for gene editing at the *HBG1/2* promoters with AsCas12a

- Patients achieved early correction of anemia, durable normalization of total Hb, and sustained increase in HbF ≥40% with pancellular distribution
- Markers of hemolysis improved or normalized by Month 6
- 27 of 28 treated patients were VOE-free post-reni-cel infusion as of the data cutoff date
- Early and sustained meaningful improvements were observed in pain, physical, and social patient-reported outcome domains

- The safety profile was consistent with myeloablative busulfan conditioning and autologous HSCT

Hb, hemoglobin; HbF, fetal hemoglobin; *HBG1/2*, γ-globin genes 1 and 2; HSCT, hematopoietic stem cell treatment; VOE, vaso-occlusive event
Data cutoff date of Oct 29, 2024.
Presented at the American Society of Hematology (ASH) Annual Meeting and Exposition, December 9, 2024.

Preclinical POC Data in *In Vivo* HSC Editing Leverages Editas' Gene Editing Expertise and Provides Foundation for LNP Platform

Potential for Best-in Class, First-in-Class *In Vivo* Medicine for Sickle Cell Disease and Beta Thalassemia

Leveraging reni-cel experience with **validated target and enzyme** that provides for development of a **differentiated medicine for sickle cell disease and beta thalassemia**

Demonstrated *in vivo* capabilities with **devised novel HSC targeting strategy** and **proprietary LNP** to deliver editing cargo

Produced competitive preclinical data set that outperforms data currently in the public domain

In vivo gene editing medicine for sickle cell disease and beta thalassemia **can expand the total addressable market (TAM)**

Proprietary LNP Platform

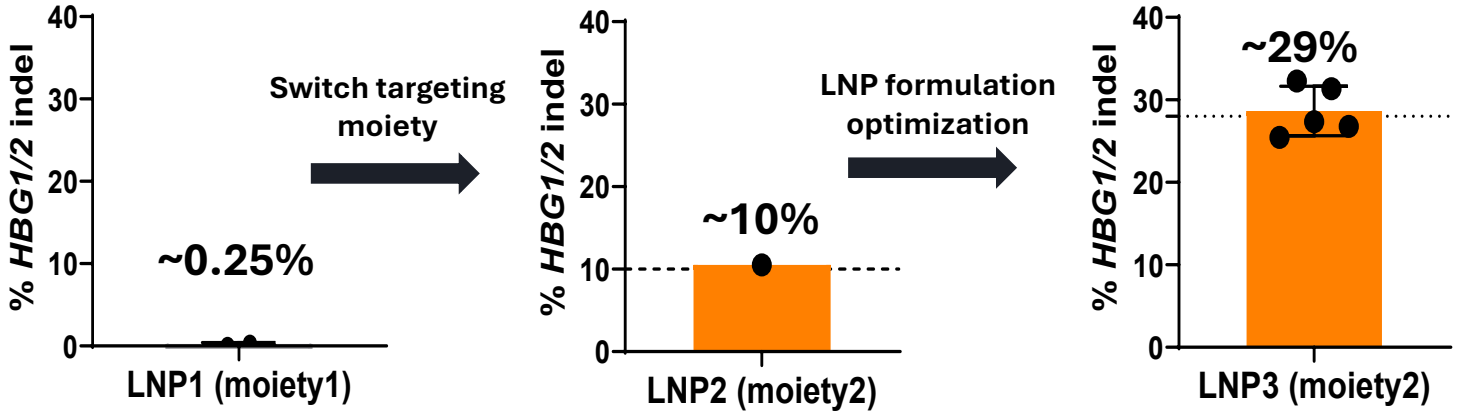
- Foundation for an **LNP Platform for Delivery to Extrahepatic Tissues**
- Ability to **deliver gene editing cargo** with HSC targeting moiety conjugated to our propriety LNP Platform
- May provide **delivery cargo to other tissues and cell types of interest**

editas MEDICINE

High Levels of *In Vivo* HBG1/2 Gene Editing Achieved in HSPCs with Optimization of a Proprietary LNP and Novel Targeting Strategy in Mice with Human HSPC

LNP optimization

HBG1/2 editing in HSPC



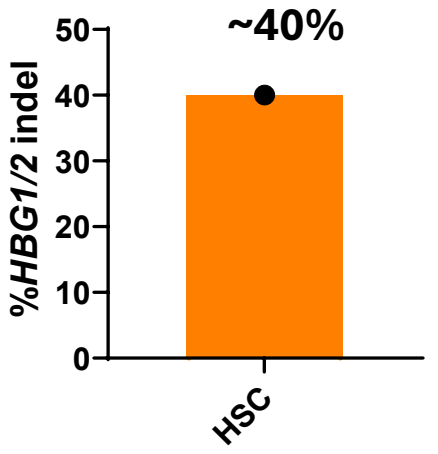
Each data point from pool of HSPC from 3 mice, 7 days post dosing

Data from pool of HSPC from 3 mice 4 days post dosing

Data from HSPC of 5 individual mice 6 days post dosing

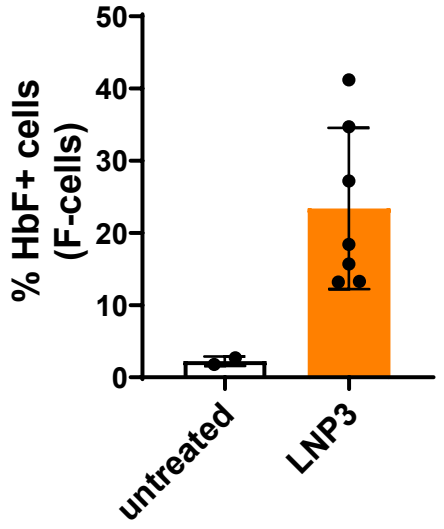
LNP3 (moiety 2)

HBG1/2 editing in HSCs



Data from HSCs pooled from 7 mice after 4 weeks of treatment

HbF induction in erythroid cells



Preclinical PoC achieved for potential treatment of SCD and Beta thalassemia by a clinically validated strategy after a single dose of Editas' proprietary tLNP

In vivo model: NBSGW mouse strain (NOD.Cg-*Prkdc*^{scid}*Il2rg*^{tm1Wjl}/SzJ (NSG) crossed with C57BL/6J-*Kit*$^{W-41J}$/J (C57BL/6.*Kit*^{W41})) engrafted, without irradiation, with human CD34+ cells from peripheral blood after plerixafor mobilization of cells from bone marrow.

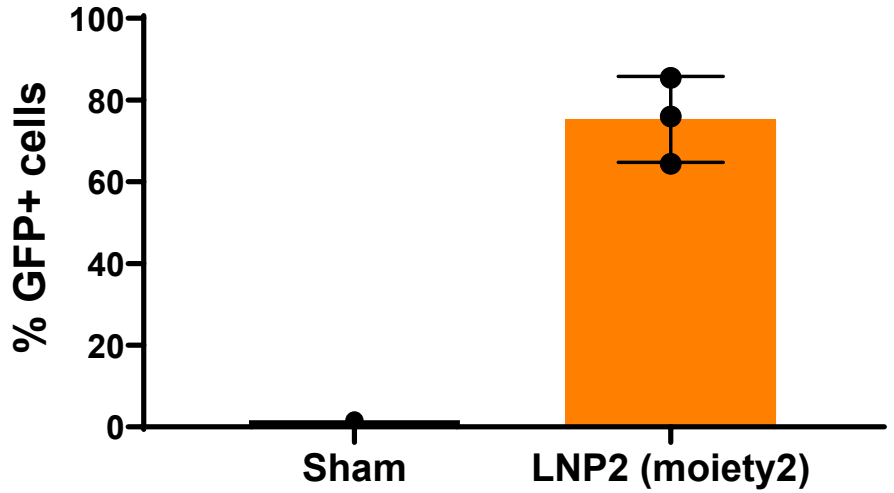
HSPC: Hematopoietic stem and progenitor cells; HSPC defined as Lin$^-$CD34$^+$CD38$^-$ cells; HSC defined as Lin$^-$CD34$^+$CD38$^-$CD90$^+$CD45RA$^-$ cells;
% indel indicates level of allelic editing, % HbF+ (Fetal hemoglobin positive) cells by flow cytometry

editas MEDICINE

High Efficiency HSC Delivery Approaching Therapeutic Editing Levels Achieved After a Single Dose of LNP2 in Non-human Primates

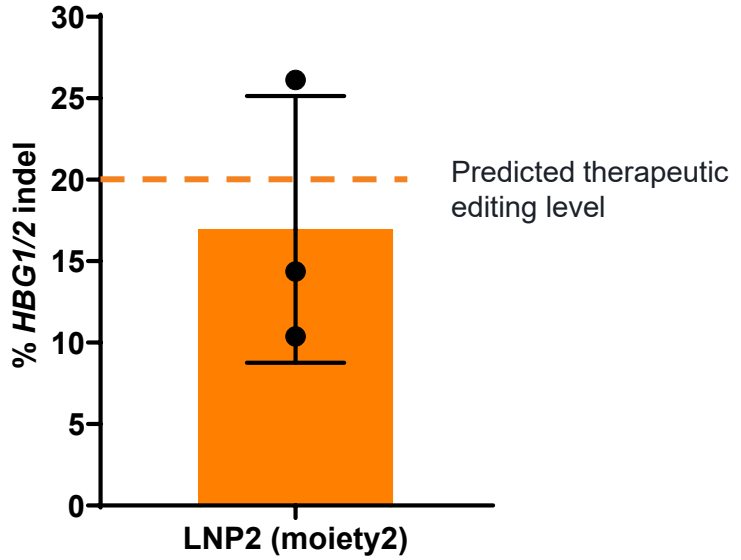
GFP mRNA delivery and *HBG1/2* editing of HSCs after single dose of LNP2 (moiety 2)

~75% GFP+ HSCs observed 24 hours after a single dose of LNP2 (moiety 2)



Data from HSC of 3 individual NHPs 24 hours post dosing

~17% HBG1/2 editing in HSCs observed 7 days after a single dose of LNP2 (moiety 2)



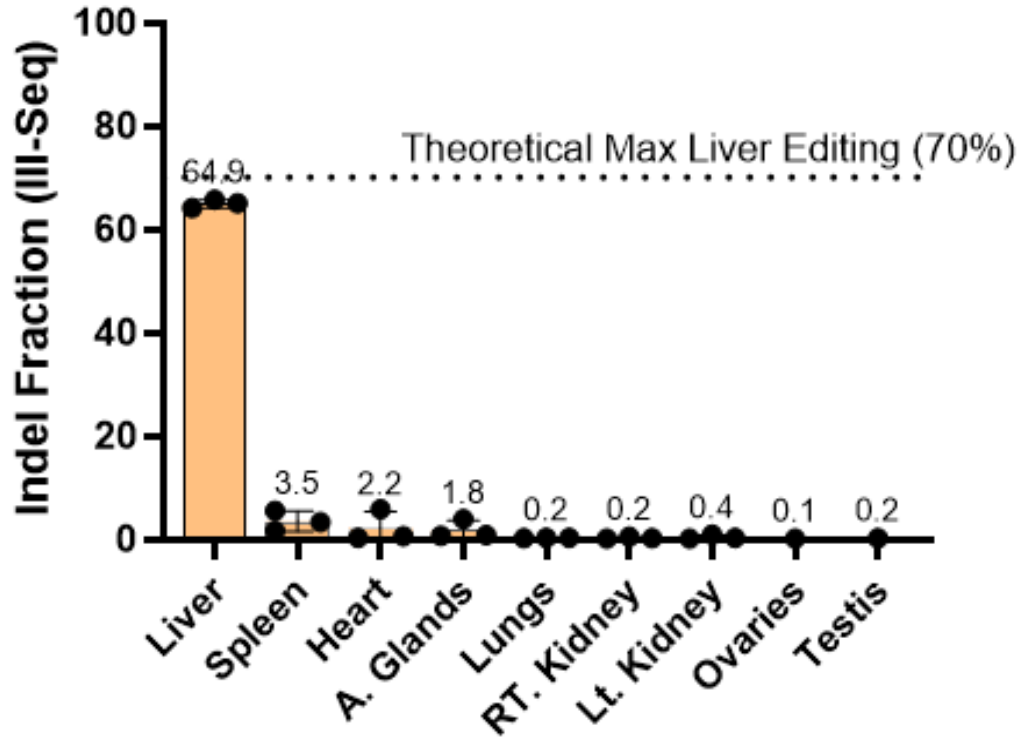
Data from HSC of 3 individual NHPs 7 days post dosing

Ongoing evaluation of further optimized formulations, e.g., LNP3 (moiety 2) expected to achieve higher therapeutic editing levels

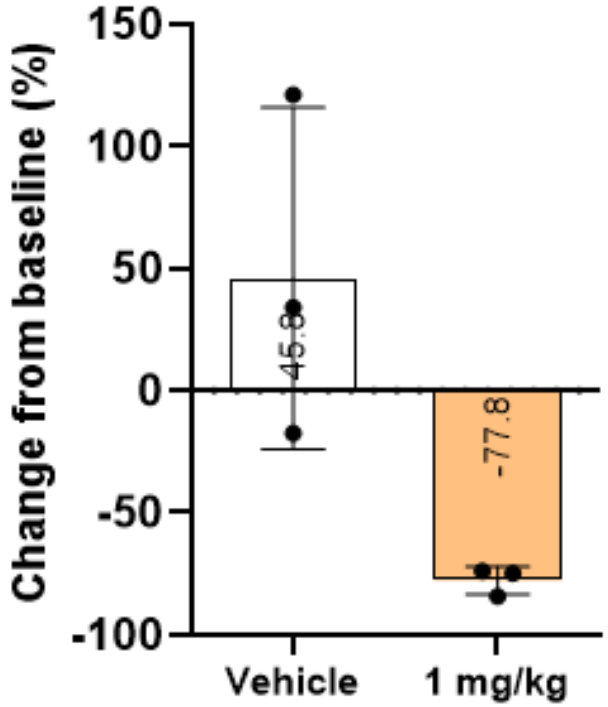
HSC: Hematopoietic stem cells defined as $CD34^{+}CD90^{+}CD45RA^{-}$ cells based on Radtke, S. Kiem, HP, et al. (2017). Sci Transl Med 9(414):eaan1145
GFP: Green fluorescent protein

Preclinical NHP PoC Validates High Efficiency Genomic Editing in Liver with First Use of AsCas12a Nuclease Delivery by Lipid Nanoparticle

Maximum editing in liver with negligible editing in non-target tissues (PoC Tool)



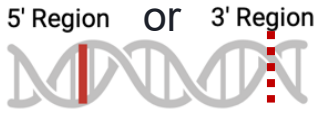
Robust serum biomarker reduction from the baseline (~80%)



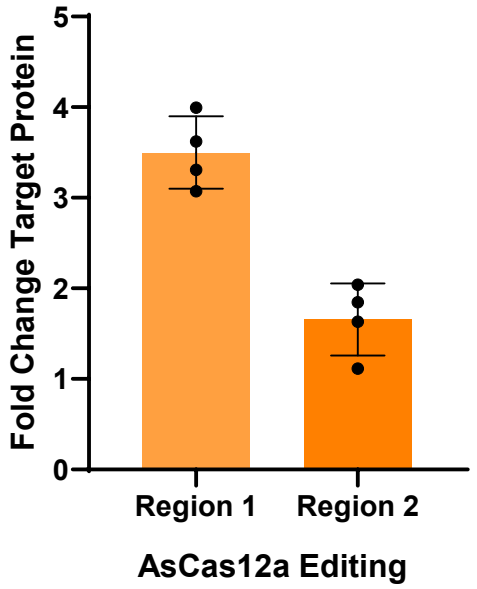
Editing data generated from whole tissue homogenate

AsCas12a nuclease and target-specific gRNA delivered using Genevant proprietary LNP

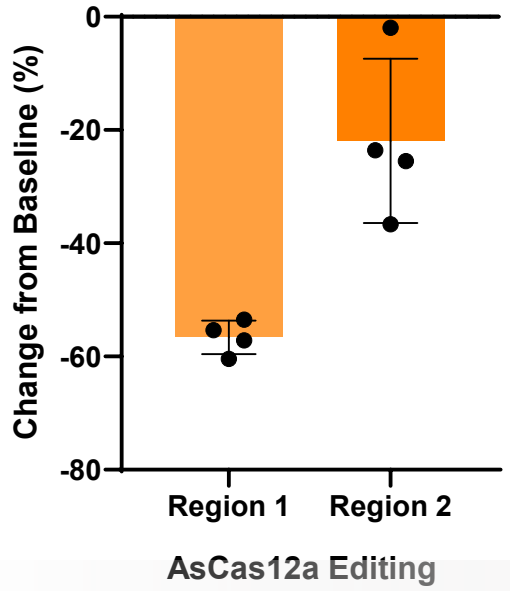
In Vivo Preclinical Proof of Upregulation Strategy Confirmed by Clinically Relevant Target Protein Increase Resulting in Significant Disease Biomarker Reduction in Undisclosed Target 1



Target Protein Upregulation



Disease Biomarker Reduction

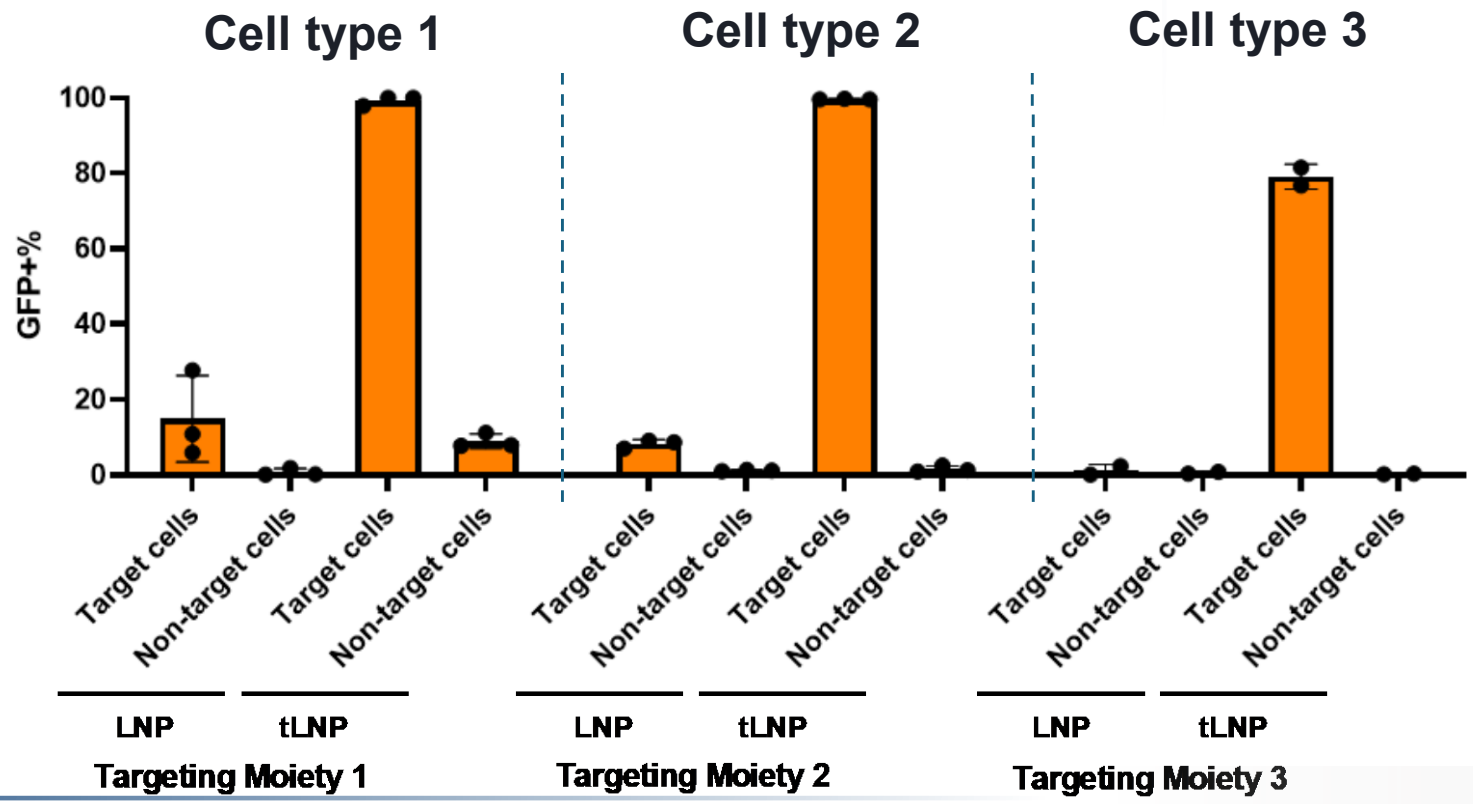


***In vivo* achievement of clinically meaningful level (≥ 2-fold upregulation) of Target 1 protein expression in mice**

Region 1 and Region 2 are blinded.

In vivo PoC for Plug ‘n Play Delivery to Extrahepatic Cell Types Achieved with Editas’ Proprietary LNP Targeting Platform

Specific Delivery of GFP to Target Cells in Humanized Mice



***In vivo* targeting to three extrahepatic cell types at ≥80% efficiency with our plug ’n play platform**

GFP: Green Florescent Protein
IHC: Immunohistochemistry

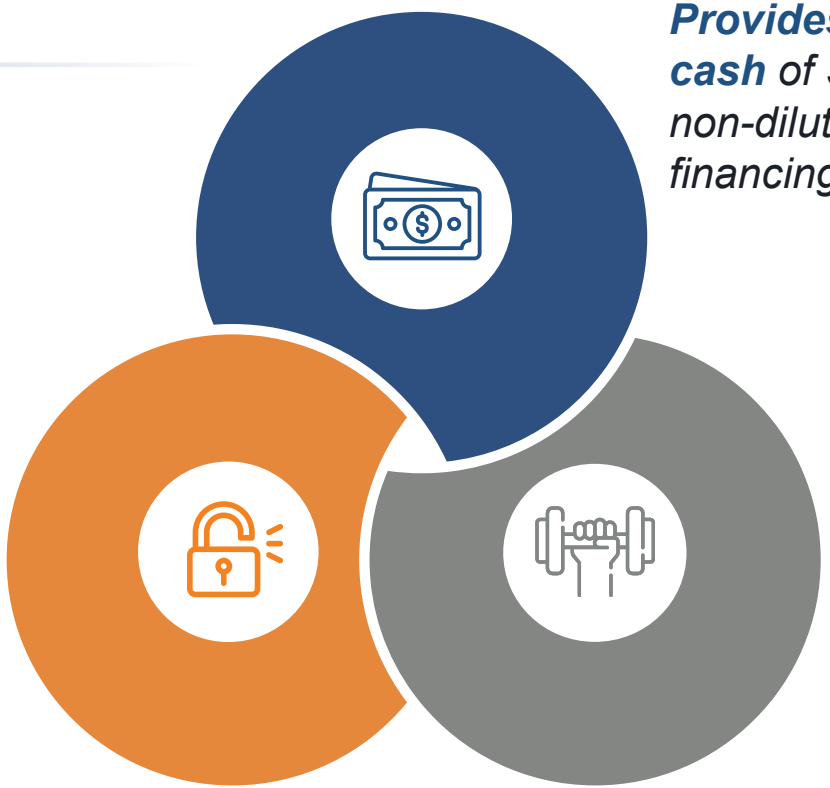
A Capital Efficient *In Vivo* Gene Editing Company

Continued Execution of our Focus to Leverage our Foundational IP Estate for Access to Non-Dilutive Capital

October 03, 2024

Editas Medicine Announces $50+ Million Monetization Financing with DRI Healthcare Trust

Strengthens balance sheet with non-dilutive capital to enable further pipeline development and related strategic priorities



***Provides upfront cash** of $57M via non-dilutive financing*

***Unlocks potential** for future business development and licensing opportunities*

***Demonstrates strength** of Editas' Foundational IP Estate*

Editas' Partnerships Validate Science and Value of IP Estate

Editas is well positioned to capture value of IP and leverage non-dilutive financing to focus resources on in vivo pipeline development

Current Collaborators and Partners

Editas' Partners are Poised to Achieve Clinical Milestones in next 12-18 Months

immatics

SHORELINE biosciences

Bristol Myers Squibb

(14 total programs)

Future IP Licensing Opportunities

Multiple clinical-stage programs in development will require an IP License for use of CRISPR Cas9 and Cas12a Technology

2025 Key Anticipated Milestones

Declare Two *in vivo* Development Candidates by Mid-2025

- **Candidate in hematopoietic stem cells (HSCs)** for **the treatment of beta thalassemia and sickle cell disease**
- **Candidate in liver cells** for an undisclosed indication

Establish One Additional Target Tissue

- **Disclose target cell type or tissue by end of 2025**, beyond HSCs and liver cells

Present in vivo preclinical editing data

- ***In vivo* preclinical proof-of-concept in both HSCs and liver cells** in large animal models

Derive Revenue from Foundational IP

- **Building on the DRI Healthcare monetization,** continue to issue sublicenses

2025-2027 Strategic Priorities

Launch Clinical Trials for Multiple *in vivo* Programs in Multiple Tissues

- **Submit at least one IND/CTAs by mid-2026**
- **Begin at least one human clinical trial by 2H 2026**
- **Potential for at least one late-stage clinical trial in 2H 2027**

Achieve *in vivo* Human Proof of Concept by year-end 2026

- **Achieve human proof-of-concept for at least one indication by year-end 2026**

Expand the Range of Diseases Addressable by *in vivo* Gene Upregulation

- ***In vivo* proof of concept in at least one tissue beyond HSCs and liver by 2027,** demonstrating plug ‘n play potential of Editas’ proprietary extrahepatic LNP platform

editas MEDICINE

A different approach focused on functional upregulation treatment strategy (proven by reni-cel).

Solved for delivery using proprietary, targeted LNPs (tLNPs) that allow targeting of multiple tissues, including HSCs, liver, and other tissues using “plug ‘n play” process.

Defined path to rapid development of new medicines with “plug ‘n play” *in vivo* editing using reprogrammable guide RNA by changing 20 nucleotides to create a new product for a new disease target.

A leading gene editing platform supported by foundational IP estate.

Driven management team with a proven track record of drug development and commercialization, strong domain expertise, and focus on execution.

Strong cash position with operational runway into Q2 2027.

Additional Information

Programs Positioned for Development