UNITED STATES
SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 8-K

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

Date of Report (Date of earliest event reported): September 3, 2024

PRAXIS PRECISION MEDICINES, INC.

(Exact name of registrant as specified in its charter)

Delaware	**001-39620**	**47-5195942**
(State or other jurisdiction of incorporation)	**(Commission File Number)**	**(I.R.S. Employer Identification No.)**

Praxis Precision Medicines, Inc.
99 High Street, 30th Floor
Boston, Massachusetts 02110
(Address of principal executive offices, including zip code)

(617) 300-8460
(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	**Trade Symbol(s)**	**Name of each exchange on which registered**
Common Stock, $0.0001 par value per share	**PRAX**	**The 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 September 3, 2024, Praxis Precision Medicines, Inc. (the "Company") published a corporate presentation announcing topline results from its EMBOLD Study. The presentation is available in the "Investors + Media" portion of the Company's website at investors.praxismedicines.com and a copy is furnished as Exhibit 99.1 to this Current Report on Form 8-K.

The information in this Item 7.01 of this Form 8-K and Exhibit 99.1 attached hereto shall not be deemed filed for purposes of Section 18 of the Securities Exchange Act of 1934, as amended (the "Exchange Act") or otherwise subject to the liabilities of that section, nor shall any of it be deemed incorporated by reference in any filing under the Securities Act of 1933 or the Exchange Act, except as expressly set forth by specific reference in such a filing.

Item 8.01. Other Events.

On September 3, 2024, the Company announced topline results from the EMBOLD study evaluating relutrigine (PRAX-562) in SCN2A and SCN8A developmental and epileptic encephalopathy (DEE) patients.

EMBOLD is a multicenter, double-blind, placebo-controlled, intervention-period-masked, randomized study, followed by open-label extension (OLE), which enrolled eligible male and female participants aged 2-18 years with a diagnosis of early onset *SCN2A*-DEE or *SCN8A*-DEE. Sixteen patients were randomized (1:1) to receive relutrigine QD for 16 weeks, or relutrigine QD for 12 weeks and matching placebo QD for 4 weeks, administered orally or via gastrostomy/jejunostomy tube (G/J-tube). Fifteen patients were determined to be eligible for efficacy assessments. Dose adjustment was permitted to a maximum of 1.0 mg/kg/day and a minimum of 0.25 mg/kg/day. Thirteen patients enrolled in the OLE.

Summary of EMBOLD results

Relutrigine was generally safe and well tolerated by patients during the EMBOLD study. Seven patients increased the daily dose from 0.5 to 1 mg/kg/day during the double-blind period of the study. No patient required dose reduction. The most common adverse events (AE) were infections, vomiting, pyrexia, somnolence and constipation in patients receiving relutrigine. No patients discontinued due to an AE.

Patients on relutrigine observed a placebo-adjusted reduction of 46% in countable motor seizures (log-transformed). Change in Global Impression of Improvement, assessed by the caregiver and clinician at week 16 for patients on relutrigine, showed an improvement (caregiver, clinician) in disruptive behavior (29%, 23%), communication (43%, 31%), seizure severity and intensity (71%, 62%) and alertness (57%, 69%).

Eight patients have completed at least one 28-day period in the long-term extension of EMBOLD with a median reduction in motor seizures of 75%. Five patients achieved a 28-day seizure free status while receiving relutrigine, compared to none on placebo.

Forward-Looking Statements

This Current Report on Form 8-K contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995 and other federal securities laws, including statements regarding the clinical development of relutrigine, including with respect to the EMBOLD and related long-term extension study, and the potential benefits of relutrigine to treat patients aged 2-18 years with a diagnosis of early onset SCN2A-DEE or SCN8A-DEE. The forward-looking statements included in this Current Report on Form 8-K are subject to a number of risks, uncertainties and assumptions, including, without limitation, uncertainties inherent in clinical trials, the expected timing of submission for regulatory approval or review by governmental authorities and other risks as described in the Company's Annual Report on Form 10-K for the year ended December 31, 2023 and its other filings with the Securities and Exchange Commission. These statements are based only on facts currently known by the Company and speak only as of the date of this Current Report on Form 8-K. As a result, you are cautioned not to rely on these forward-looking statements and the Company undertakes no obligation to publicly update or revise any forward-looking statement, whether as a result of new information, future developments or otherwise.

Item 9.01. Financial Statements and Exhibits.

(d) Exhibits

Exhibit No.	Description
99.1	EMBOLD Corporate Presentation
104	Cover Page Interactive Data File (embedded within the inline XBRL document)

SIGNATURE

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.

PRAXIS PRECISION MEDICINES, INC.

Date: September 3, 2024

By: /s/ Marcio Souza
Marcio Souza
Chief Executive Officer

Exhibit 99.1

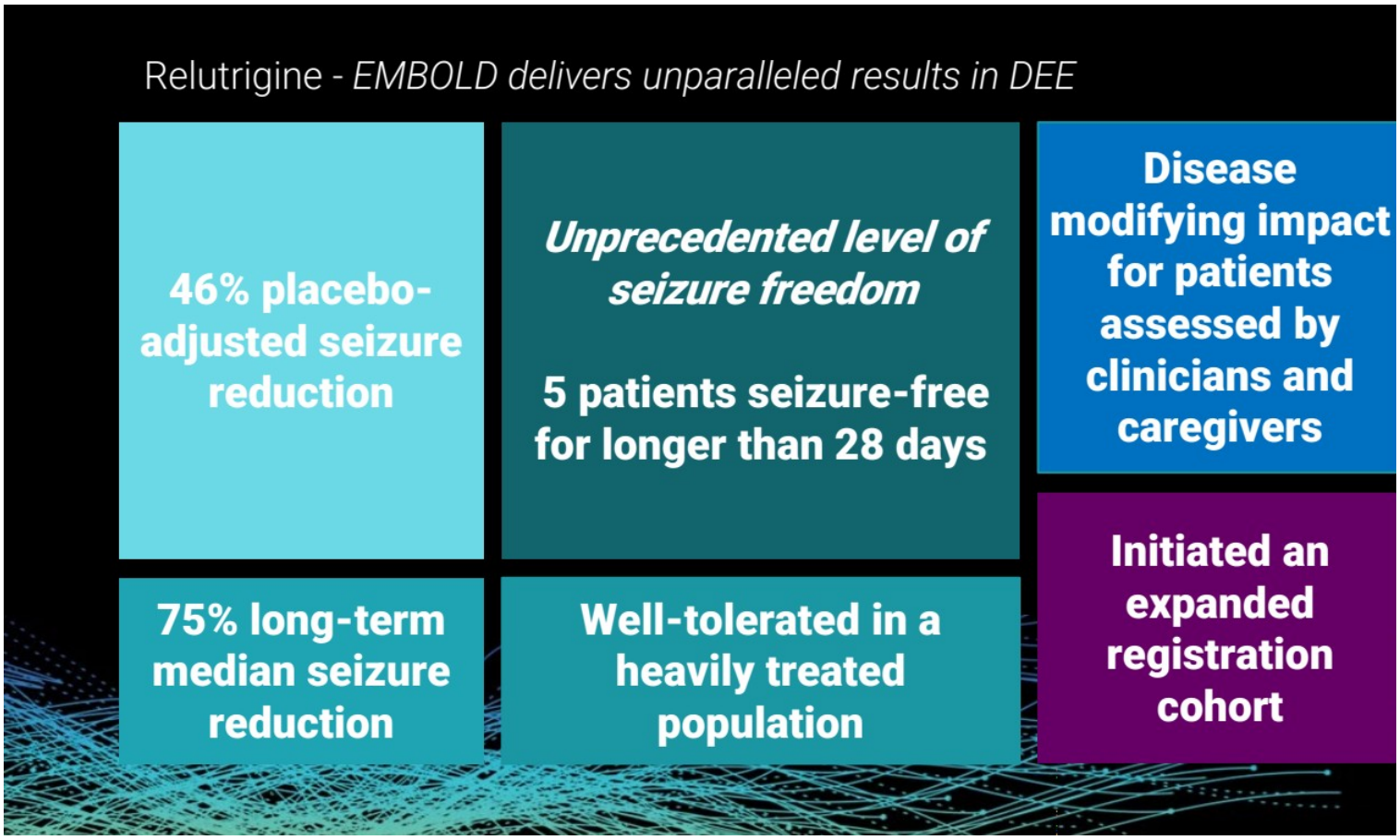

PRAX
DARE FOR MORE®
RELUTRIGINE: EMBOLD Phase 2 Study Topline Results
September 3, 2024
EMB

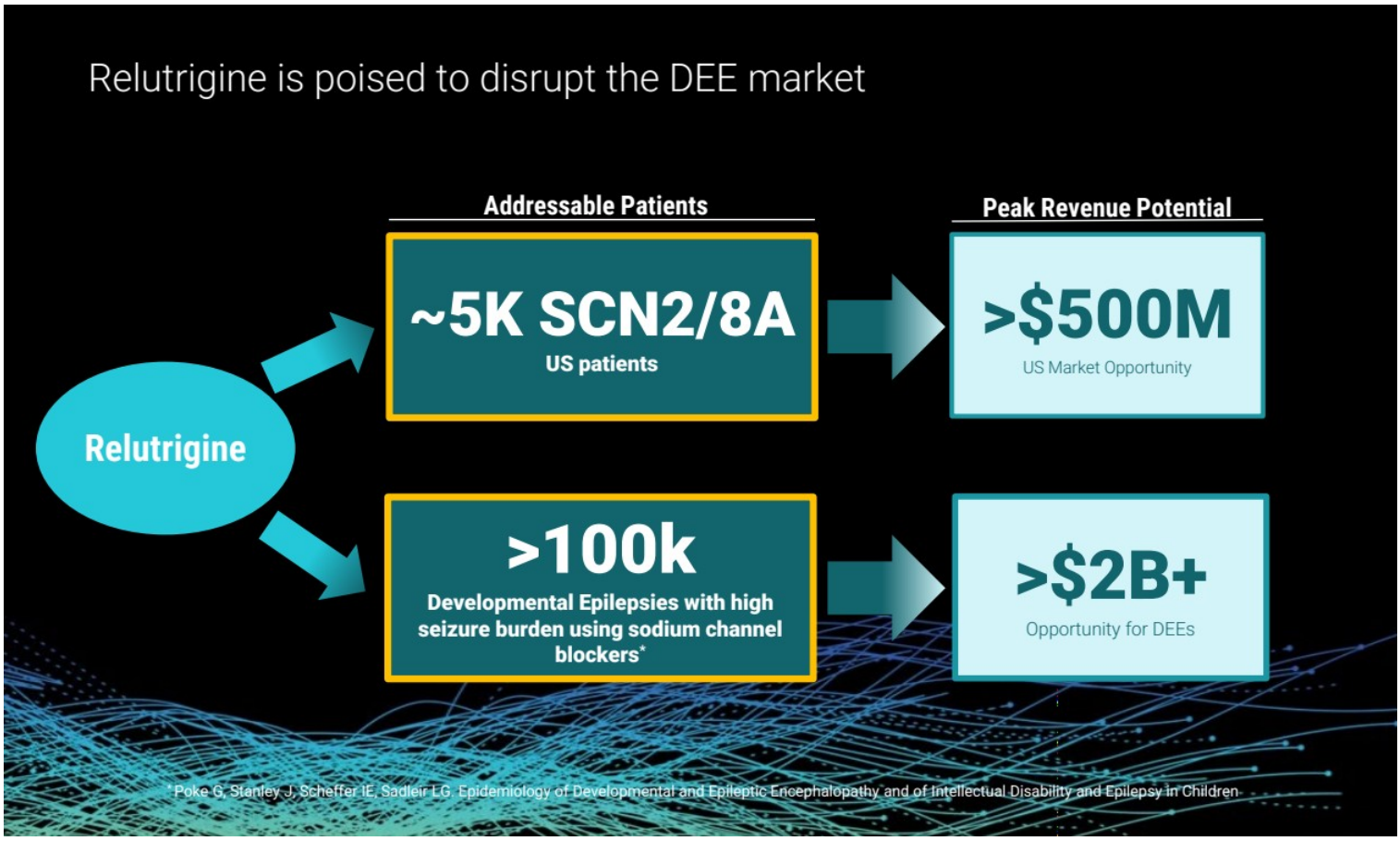
Forward-looking statements

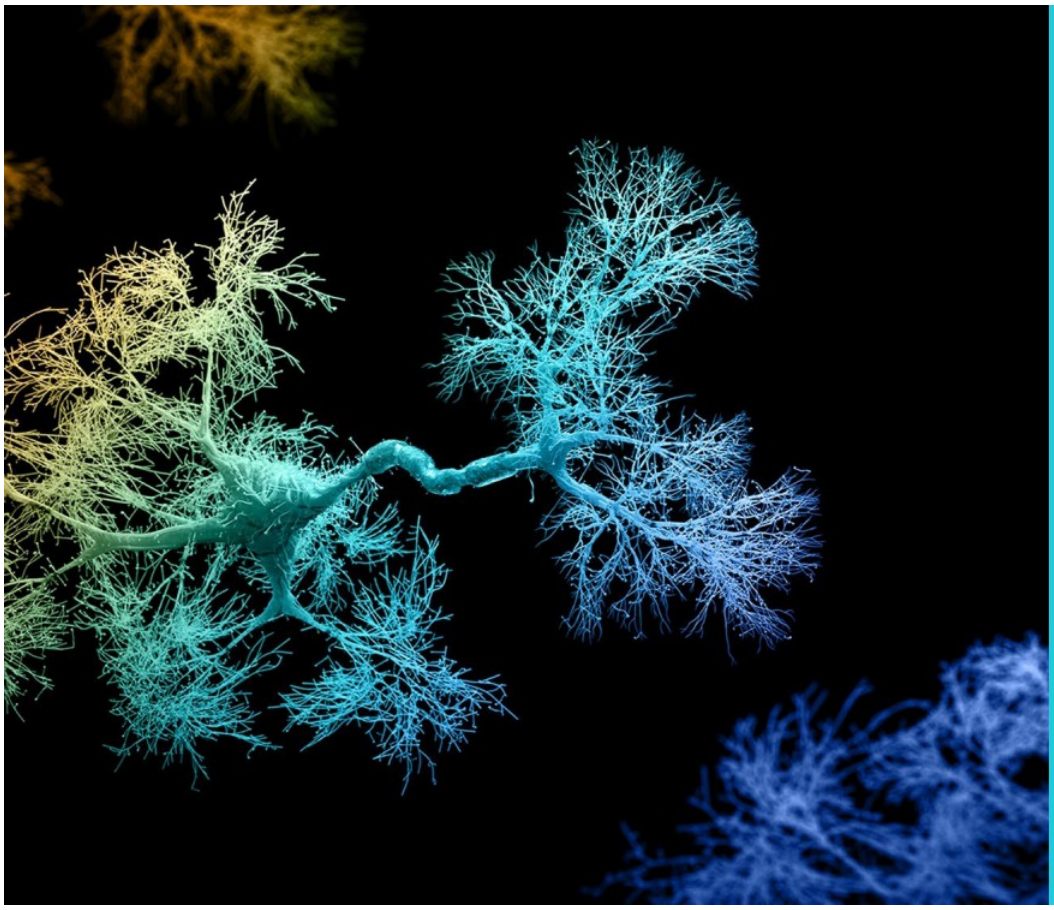
This presentation may contain "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995 relating to our business, operations, and financial conditions, including but not limited to express or implied statements regarding the current beliefs, expectations and assumptions regarding the future of our business, future plans and strategies, including statements regarding the estimated market for our product candidates, if approved, our development plans, our preclinical and clinical results, including statements regar the clinical development of relutrigine and the EMBOLD and related long-term extension study, and the potential benefits of relutrigine to treat patients aged 2-18 years with a diagnosis of ear onset SCN2A-DEE or SCN8A-DEE, as well as the potential benefit to well-being and quality of life, the timing of the EMERALD study, any upcoming discussions with the FDA, and the timing thereof, and the safety, efficacy, and regulatory and clinical design or progress, potential regulatory submissions, approvals and timing thereof of any of our product candidates. Any forward-looking statements in this presentation are based on management's current expectations and beliefs and are subject to a number of risks, uncertainties and important factors that may cause actual events or results to differ materially from those expressed or implied by any forward-looking statements contained in this presentation, including, without limitation, risks relating to: (i) t success and timing of our ongoing clinical trials, (ii) the success and timing of our product development activities and initiating clinical trials, (iii) the success and timing of our collaboration partners' product development activities, (iv) the timing of and our ability to obtain and maintain regulatory approval of any of our product candidates, (v) our plans to research, discover and develop additional product candidates, (vi) our ability to enter into collaborations for the development of new product candidates, (vii) our ability to establish manufacturing capabilities, and ou collaboration partners' abilities to manufacture our product candidates and scale production, (viii) our ability to meet any specific milestones set forth herein, and (ix) the potential addressable market sizes for product candidates. New risks and uncertainties may emerge from time to time, and it is not possible to predict all risks and uncertainties. Except as required by applicable la we do not plan to publicly update or revise any forward-looking statements contained herein, whether as a result of any new information, future events, changed circumstances or otherwise. Although we believe the expectations reflected in such forward-looking statements are reasonable, we can give no assurance that such expectations will prove to be correct. Accordingly, read are cautioned not to place undue reliance on these forward-looking statements.

For further information regarding the risks, uncertainties and other factors that may cause differences between our expectations and actual results, you should review the "Risk Factors" sectio our Annual Report on Form 10-K for the year ended December 31, 2023 filed with the Securities and Exchange Commission ("SEC") and our other filings with the SEC.

Certain information contained in this presentation relates to or is based on studies, publications, surveys and other data obtained from third-party sources and our own internal estimates and research. While we believe these third-party sources to be reliable as of the date of this presentation, we have not independently verified, and make no representation as to the adequacy, fairne accuracy or completeness of, any information obtained from third-party sources. In addition, all of the market data included in this presentation involves a number of assumptions and limitati and there can be no guarantee as to the accuracy or reliability of such assumptions. Finally, while we believe our own internal research is reliable, such research has not been verified by any independent source.


Relutrigine - *EMBOLD delivers unparalleled results in DEE*
46% placebo-adjusted seizure reduction
Unprecedented level of seizure freedom
5 patients seizure-free for longer than 28 days
Disease modifying impact for patients assessed by clinicians and caregivers
75% long-term median seizure reduction
Well-tolerated in a heavily treated population
Initiated an expanded registration cohort


Relutrigine is poised to disrupt the DEE market
Addressable Patients
Peak Revenue Potential
Relutrigine
~5K SCN2/8A
US patients
>$500M
US Market Opportunity
>100k
Developmental Epilepsies with high seizure burden using sodium channel blockers*
>$2B+
Opportunity for DEEs
* Poke G, Stanley J, Scheffer IE, Sadleir LG. Epidemiology of Developmental and Epileptic Encephalopathy and of Intellectual Disability and Epilepsy in Children



RELUTRIGINE

Disease Overview:

Developmental and Epile
Encephalopathies (DEEs)

DEEs are demanding and devastating with early mortality

The incidence of DEE is expected to be 1/10,000 live births

Often caused by mutations that disrupt function of brain voltage-gated ion channels

Patients experience impairment in motor, cognitive and language development, with many remaining non-verbal

Characterized by frequent seizures, abnormal brain function, and developmental disability, typically beginning in infancy

Treatment is sub-optimal, often associated with safety and tolerability issues

Significantly impact quality of life for both patients and their caregivers

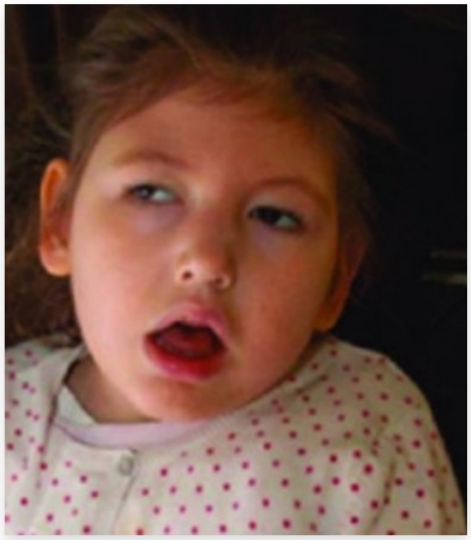
Rarely survive beyond teenage years, with SUDEP and aspiration pneumonia amongst common causes of early mortality

1. Zuberi SM, et al. *Epilepsia*. 2022;63(6):1349-1397 2. Helbig KL, et al. *Am J Hum Genet*. 2018;103(5):666-678. , 3. Takai A, et al. *Int J Mol Sci*. 2020;21(17):6442, 4. Gallop K, et al. *Epilepsy Behav*. 2021;124:108324, 5. Johannessen Landmark C, et al. *Epilepsia*. 2021;62(4):857-873. 6. Thurman DJ, et al. *Epilepsia*. 2014;55(10):1479-1485

SCN2A and SCN8A are amongst the most severe and refractory forms of DEE

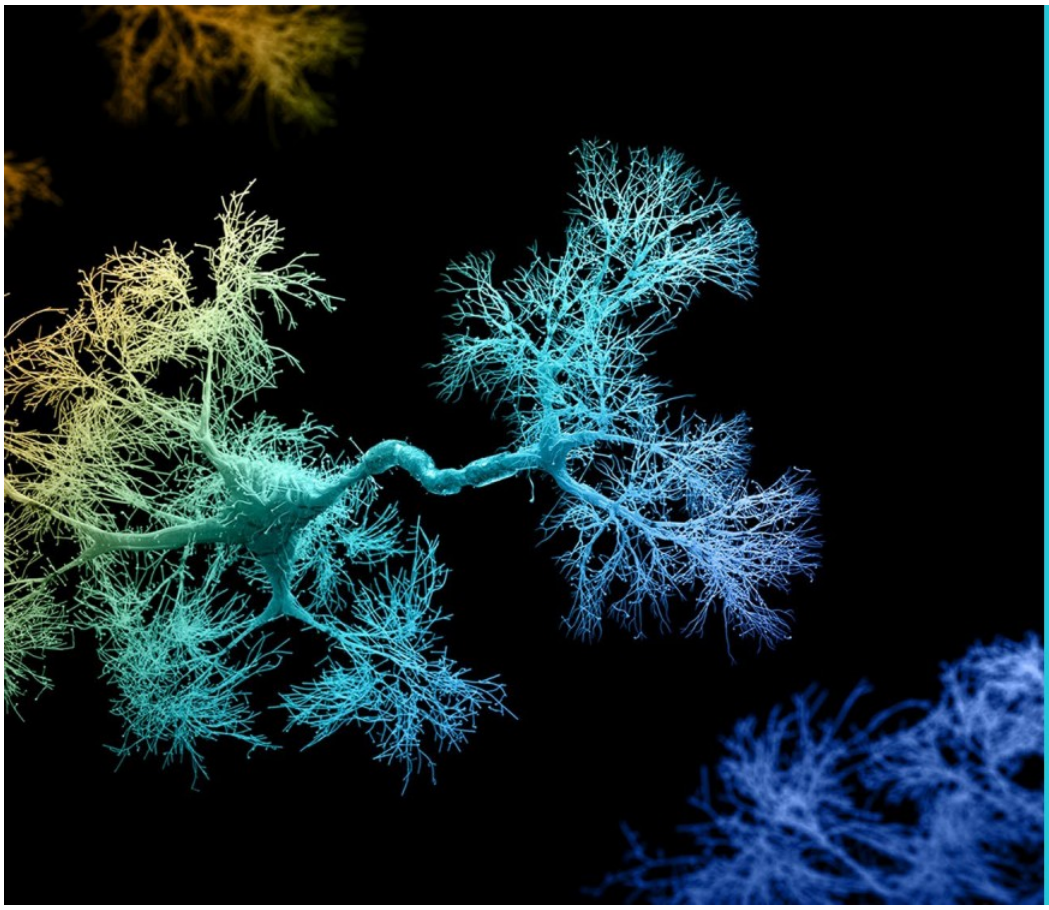
Estimated prevalence of ~5,000 patients in the US

- SCN2A and SCN8A conditions are caused by mutations in ion channels that disrupt normal function
- Patients with SCN2A and SCN8A DEEs frequently exhibit symptoms from birth, persisting their entire life, including:
  - Severe and uncontrollable early-onset seizures
  - Movement disorders
  - Pronounced global developmental delays and marked intellectual disabilities
  - Devastating quality of life, including on their caregivers
- Refractory to treatment
- Life-expectancy is significantly shortened, rarely surviving beyond teenage years



1. Source: Invitae Behind The Seizure Data; Ambit Genetic Testing and Claims Data Analysis. 2. Kim JB. *Korean J Pediatr.* 2014;57(1):1-18 *3. SCN2A*-related disorders. Children's Hospital of Philadelphia. Accessed Aug 27, 2024. https://www.chop.edu/conditions-diseases/scn2a-related-disorders

PRAXIS



RELUTRIGINE

Mechanism of Acti

Preclinical and emerging clinical data demonstrate relutrigine has the potential to be a first- and best-in-class small molecule for DEEs

RELUTRIGINE

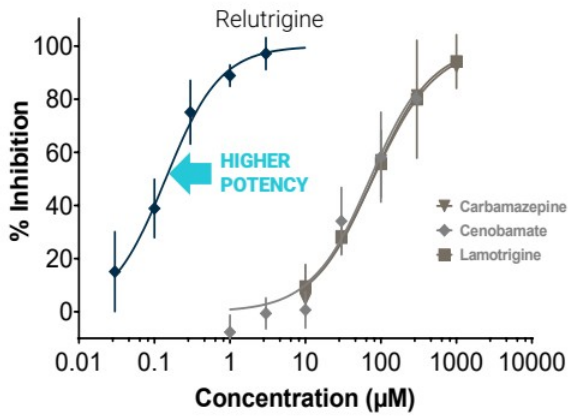
FORMULATED FOR PEDIATRIC USE

FUNCTIONAL STATE MODULATOR

- Superior selectivity for disease-state Na_V channel hyperexcitability
- Unprecedented therapeutic window with potential for superior safety and efficacy
- Convenient auto-titration regimen with stable PK

Superior potency and selectivity for disease-state Na_V channel hyperexcitability

% INHIBITION OF $hNa_V1.6$ PERSISTENT I_{Na}

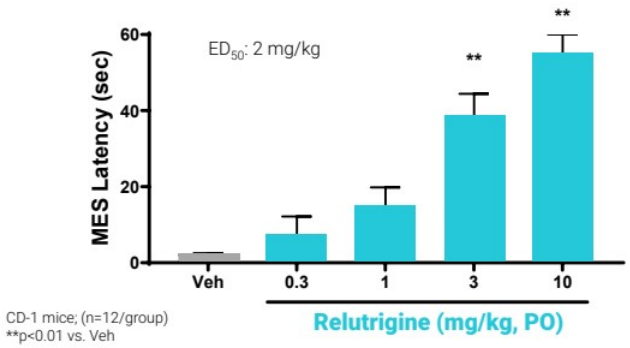


COMPARISON OF POTENCY AND SELECTIVITY

	Persistent I_{Na} IC50 (nM)	Ratio of persistent to peak inhibition
Relutrigine	**141**	**60** ← MORE SELE
Carbamazepine	77,520	30
Cenobamate	73,263	23
Lidocaine	68,230	19
Lamotrigine	78,530	16
Lacosamide	833,100	n/a*
Valproic Acid	<10% @ 1 mM	No inhibition

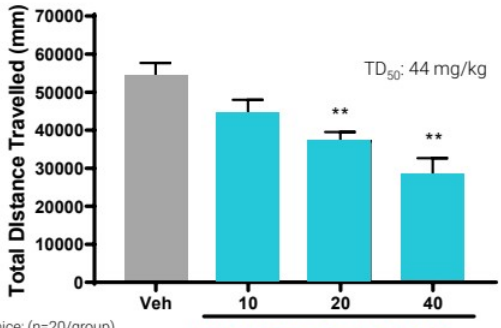
Functional selectivity translates to a wide therapeutic index in vivo for relutrigine

MES EFFICACY



CD-1 mice; (n=12/group)
**p<0.01 vs. Veh

sLMA TOLERABILITY



CD-1 mice; (n=20/group)
ANOVA/Dunnett
**p<0.01 vs. Veh

Molecule	Plasma Therapeutic Index
Relutrigine	16.2x

Therapeutic Index (TI) = TC50 / EC50

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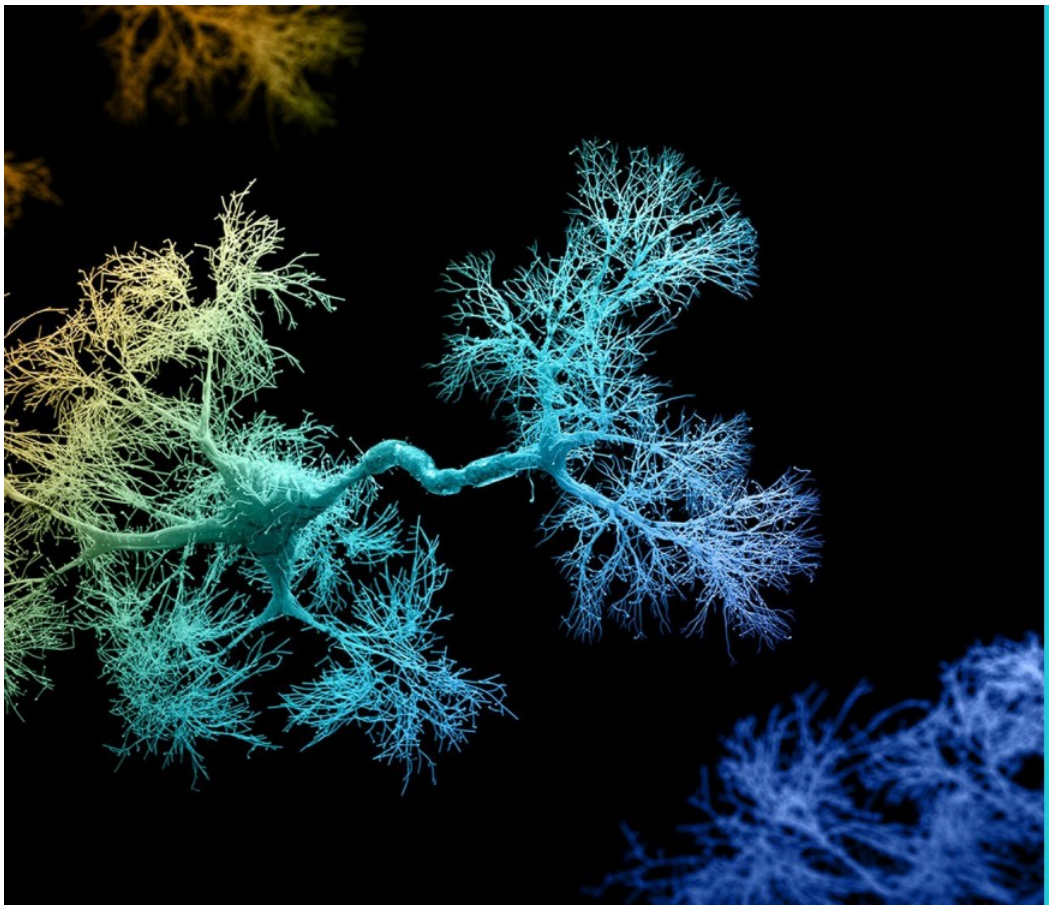
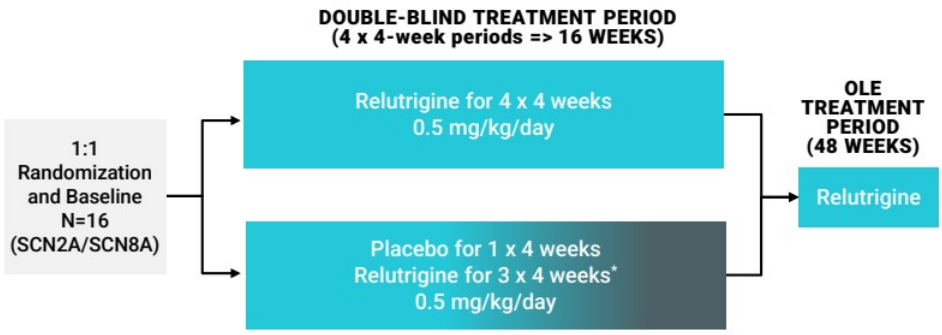


RELUTRIGINE

Topline Data

Relutrigine Phase 2 EMBOLD study design and endpoints



KEY ENDPOINTS:

Incidence and severity of treatment-emergent adverse events (TEAEs)

Change from baseline in monthly (28-day) mot seizure frequency

Seizure freedom achieved for a 4-week period

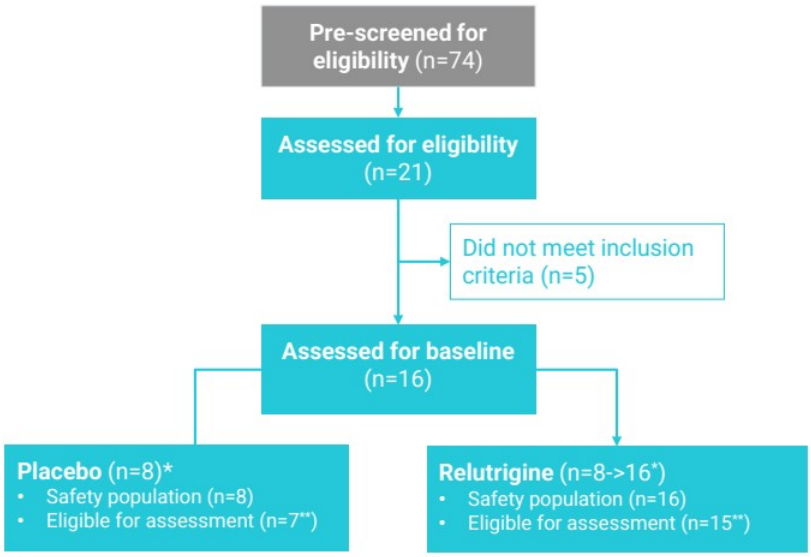
Clinical and Caregiver Global Impression of Improvement and Severity

EME

* Participants receive either 0.5 mg/kg/day relutrigine QD for 16 weeks or 0.5 mg/kg/day relutrigine QD for 12 weeks & matching placebo QD for 4 weeks. Participants in the relutrigine/placebo arm will receive placebo for 4 consecutive weeks during the 16-week treatment period, with timing of placebo administration blinded for both participants and investigator. Dose adjustment is permitted to a max of 1.0 mg/kg/day and a min of 0.25 mg/kg/day.

PRAXIS

EMBOLD study disposition



Key Inclusion Criteria

- Documented severe DEE with mutatior in SCN2A or SCN8A genes
- Age 2-18 years
- ≥8 countable motor seizures in 4 week preceding AND during 28-day baseline observation
- On stable ASM doses for ≥1 month pri to screening

*Patients assigned to placebo received placebo for one (4 week) period and relutrigine for 3 periods
**1 patient had no available data for efficacy assessment

Demographics and Baseline Characteristics

	Placebo (n = 8)	Total (n = 16)
Age, mean (min, max)	6.1 (3, 12)	5.9 (2, 14)
DEE		
SCN2A, n (%)	4 (50)	7 (44)
SCN8A, n (%)	4 (50)	9 (56)
Gender (Male / Female, %)	5/3 (63/37)	9/7 (56/44)
Age at seizure onset (n)		
0 – 3 months	7	13
4 – 12 months	1	2
>12 months	0	1
Patients with ASM use at baseline		
1 or 2 ASM	2	4
3 or 4 ASM	5	11
Baseline motor seizures per 28-day, median (min, max)	58.7 (15, 844)	53.5 (13, 844)
Baseline log-transformed motor seizures per 28-day, mean (SE)	4 (0.4)	3.3 (0.3)
Baseline CGI-S, mean (min, max)	5.5 (4, 6)	5.6 (4, 6)

Relutrigine was generally well-tolerated

	Placebo (n=8)	Total (n=16)
Any TEAE	*4 (50%)*	*14 (88%)*
TEAEs > 2 patients		
Infections*	*3 (38%)*	*8 (50%)*
Vomiting	*1 (13%)*	*5 (31%)*
Pyrexia	*0*	*5 (31%)*
Somnolence	*0*	*4 (25%)*
Constipation	*0*	*3 (19%)*
Nasopharyngitis	*2 (25%)*	*1 (6%)*

One severe TEAE of status epilepticus related to an infection

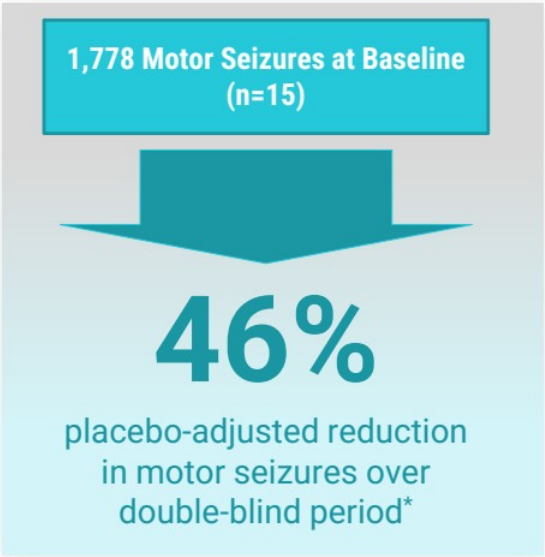
AEs were mostly mild to moderate

No drug-related SAE

No dose reduction of relutrigine required

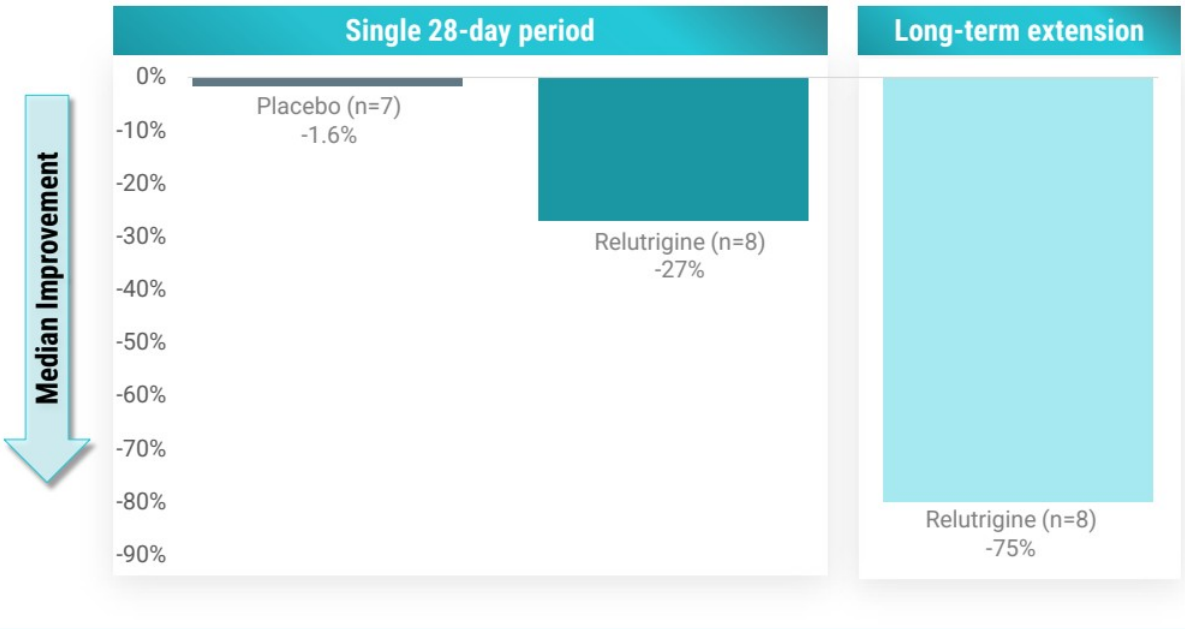
*Infections include bronchiolitis, conjunctivitis, gastroenteritis, influenza, metapneumovirus infection, nasopharyngitis, otitis media, pneumonia, respiratory tract infection, rhinovirus infection scarlet fever, tonsillitis, upper respiratory tract infection

Relutrigine demonstrated robust reduction in motor seizures and unprecedented seizure-free status per 28-day period



*Percent reduction derived from log-transformed placebo-adjusted relutrigine effect
**Assessment of motor seizures over the controlled plus open-label periods through August 21, 2024

Relutrigine patients demonstrated significant improvement over the short and long-term in motor seizures



7 patients increas
the dose of
relutrigine to 1 mg/
during the double
blind period,
2 additional patien
during the long-ter
extension

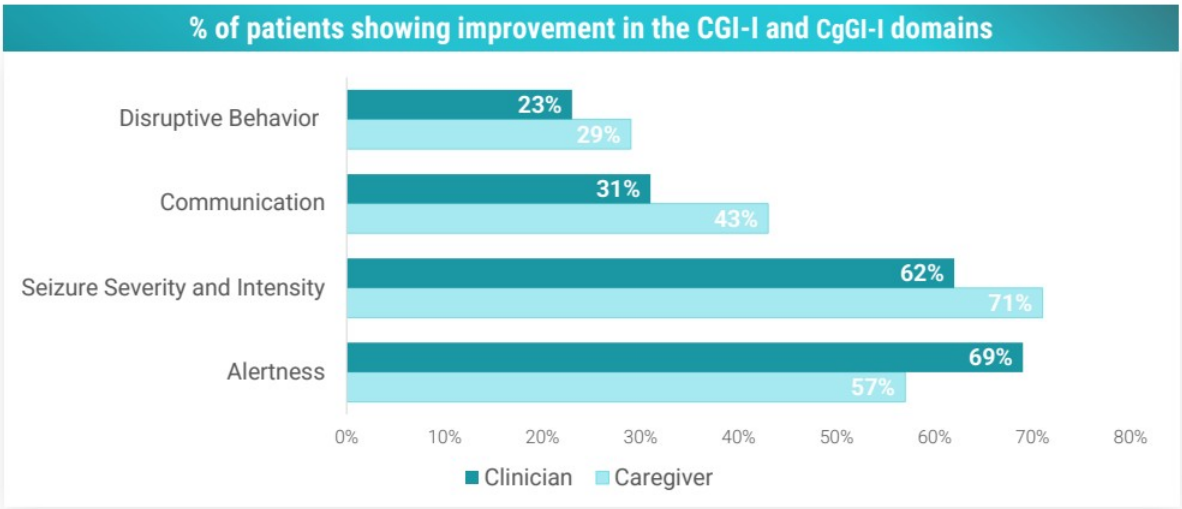
Seizure freedom
associated with
exposures achieva
by 1 mg/kg

EME

Long-term extension data for 8 patients with data available for at least one 28-day period as of August 21, 2024

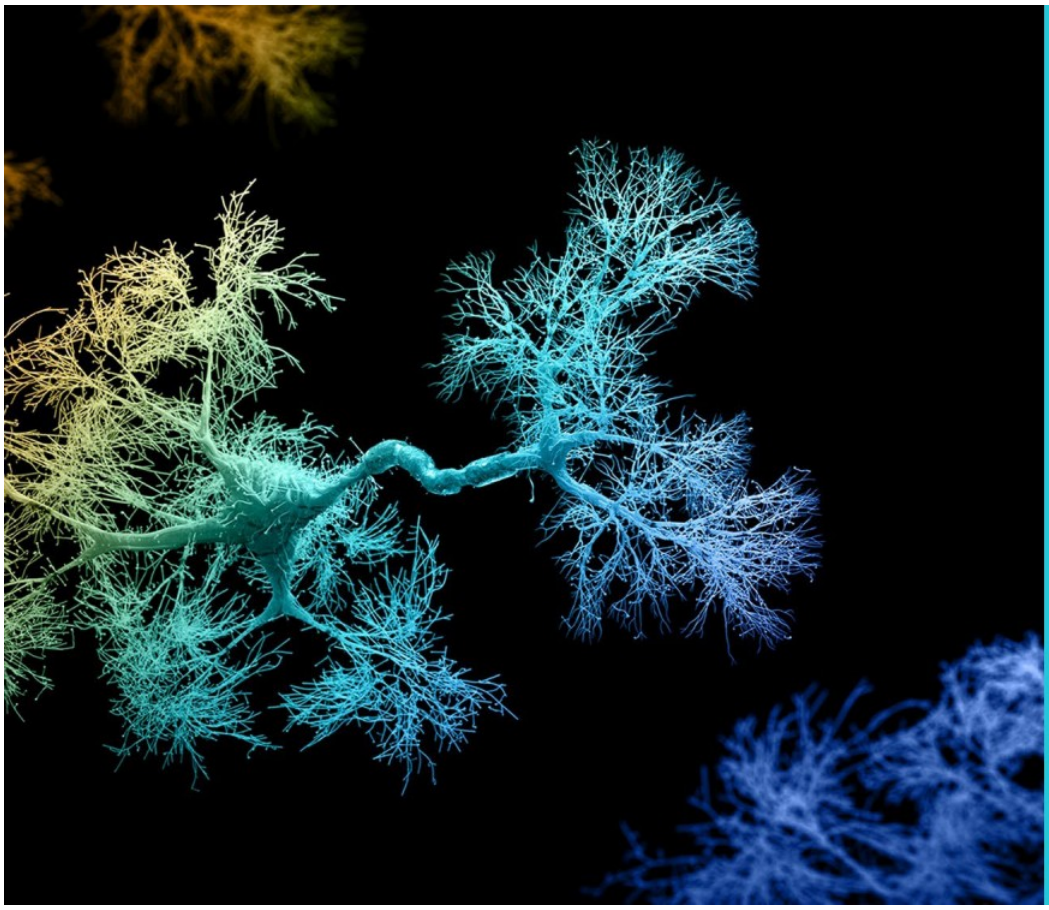
PRAXIS

Relutrigine treatment led to disease modifying impact



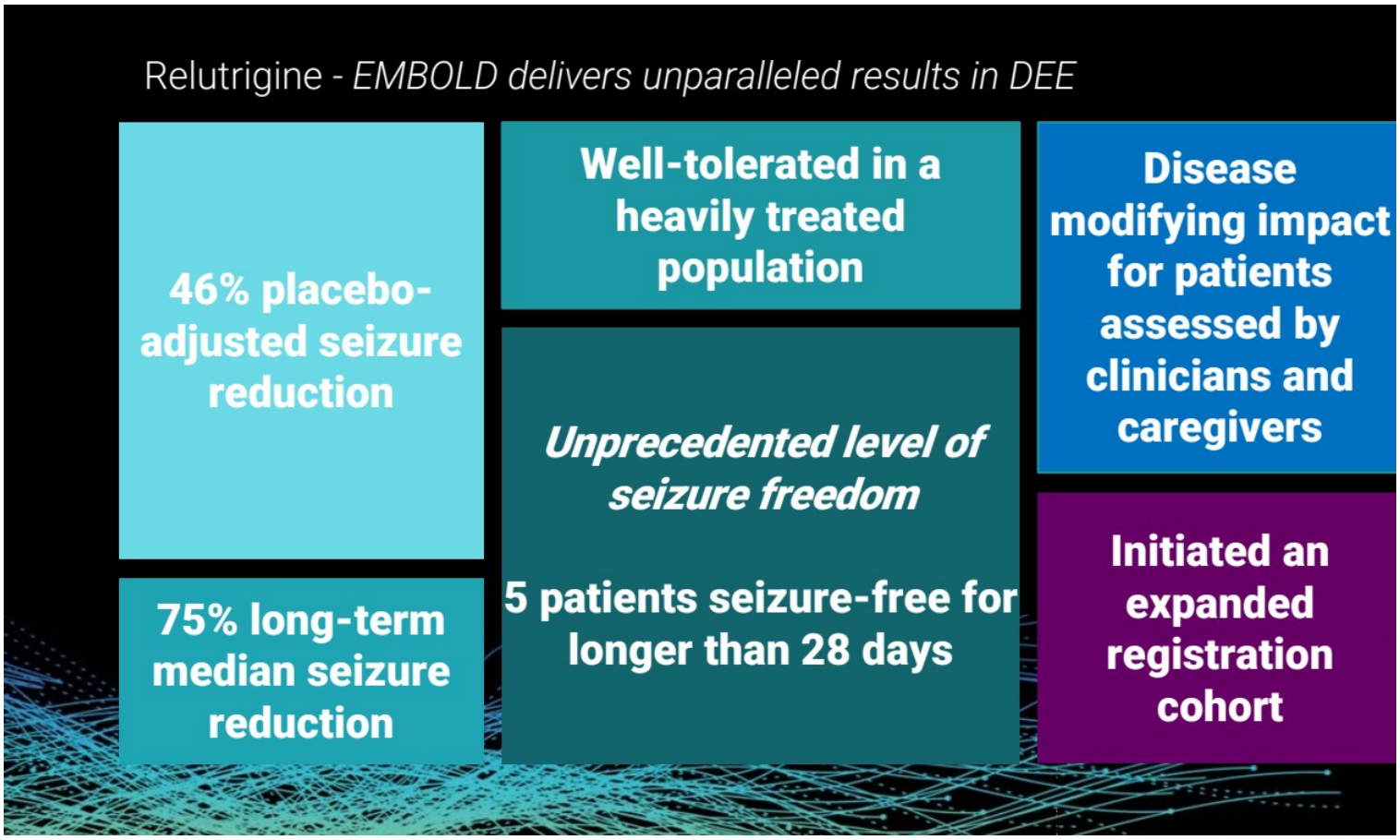
Meaningful gains in overall well-being of patients, despite severity and historical lack of improvement with available treatments

Clinical Global Impression of Improvement and Caregiver Global Impression of Improvement assessed at Week-16 visit



RELUTRIGINE

Next Steps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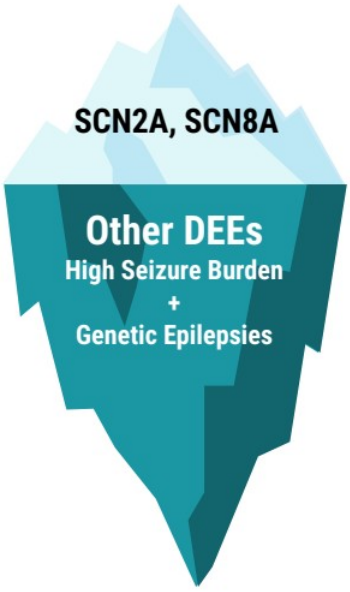
46% placebo-adjusted seizure reduction
75% long-term median seizure reduction
Well-tolerated in a heavily treated population
Unprecedented level of seizure freedom
5 patients seizure-free for longer than 28 days
Disease modifying impact for patients assessed by clinicians and caregivers
Initiated an expanded registration cohort

SCN2A and SCN8A are the tip of the iceberg to address significant unmet need for other DEEs



EMBOLD

~5,000 patients

>$500m peak revenue

>70%
DEE patients treated with sodium channel blockers*

Low tolerability and inadequate response

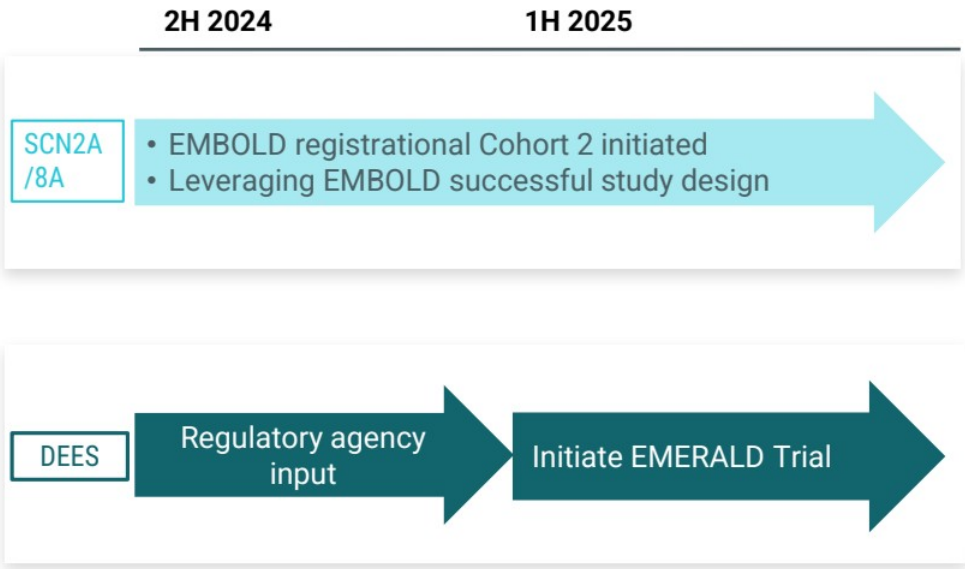
>100,000 patients

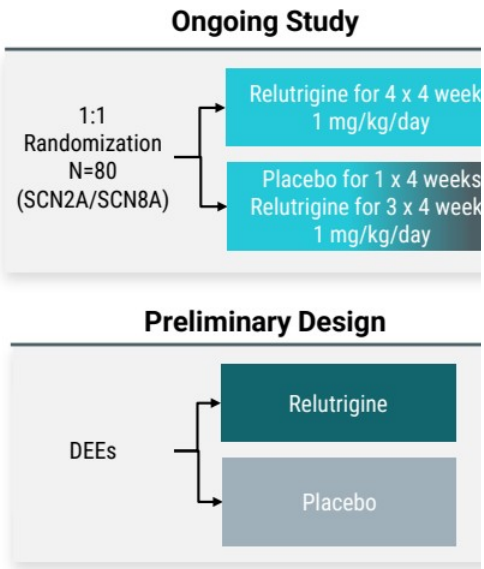
>$2bn peak revenue market opportunity

*Based PubMed Search of DEEs that could use SCBs to treat focal seizures when they presented.

Next steps

Initiated registrational trial for SCN2A and 8A, discuss Other DEEs with FDA by Q1 2025



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DARE FOR MORE®