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RELUTRIGINE: EMBOLD Phase 2 Study Topline Results

September 3, 2024



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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” section of 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, fairness, 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 limitations, 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.

Relugrigine - *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**

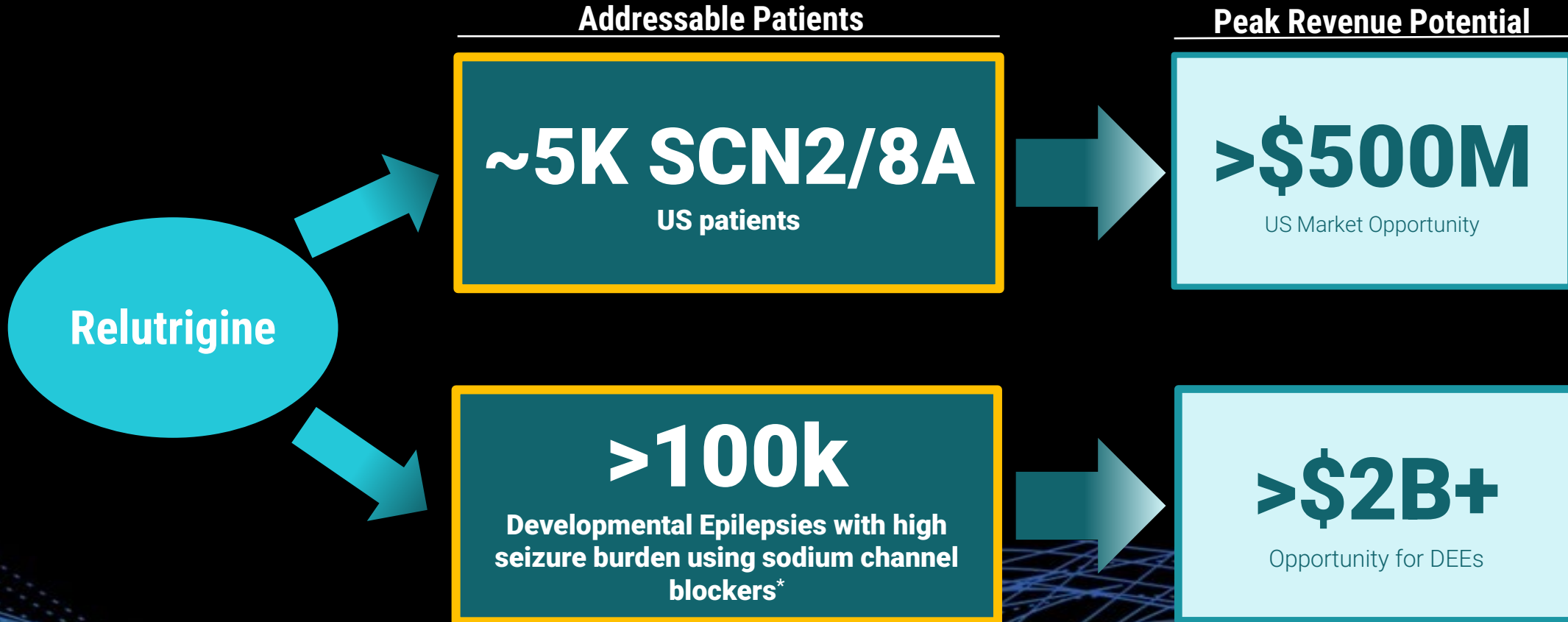
**Disease
modifying impact
for patients
assessed by
clinicians and
caregivers**

**75% long-term
median seizure
reduction**

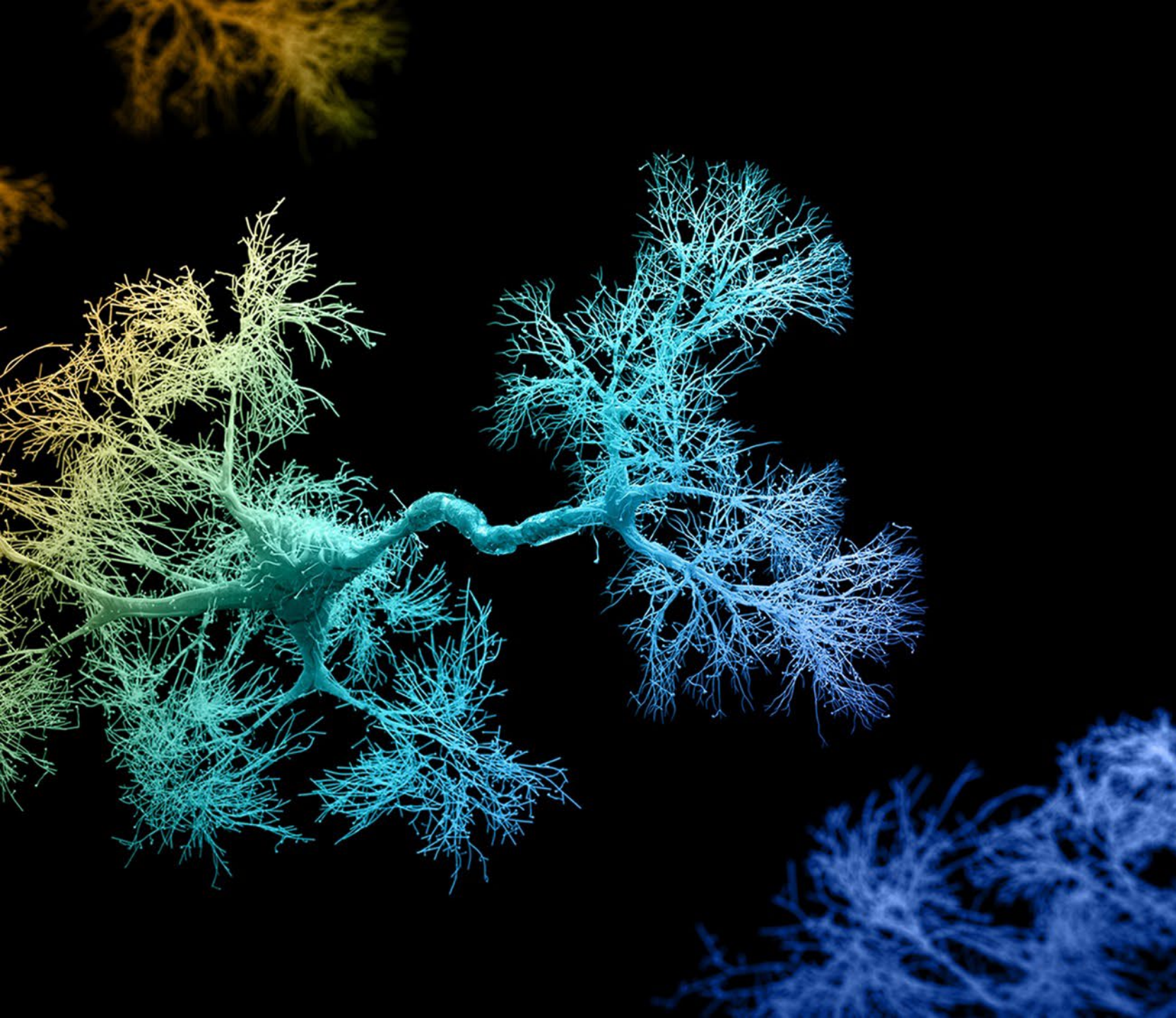
**Well-tolerated in a
heavily treated
population**

**Initiated an
expanded
registration
cohort**

Relutrigine is poised to disrupt the DEE market



*Poke G, Stanley J, Scheffer IE, Sadleir LG. Epidemiology of Developmental and Epileptic Encephalopathy and of Intellectual Disability and Epilepsy in Children



RELUTRIGINE

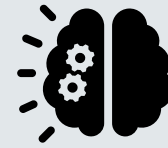
**Disease Overview:
Developmental and Epileptic
Encephalopathies (DEEs)**

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



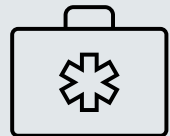
Patients experience impairment in motor, cognitive and language development, with many remaining non-verbal



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

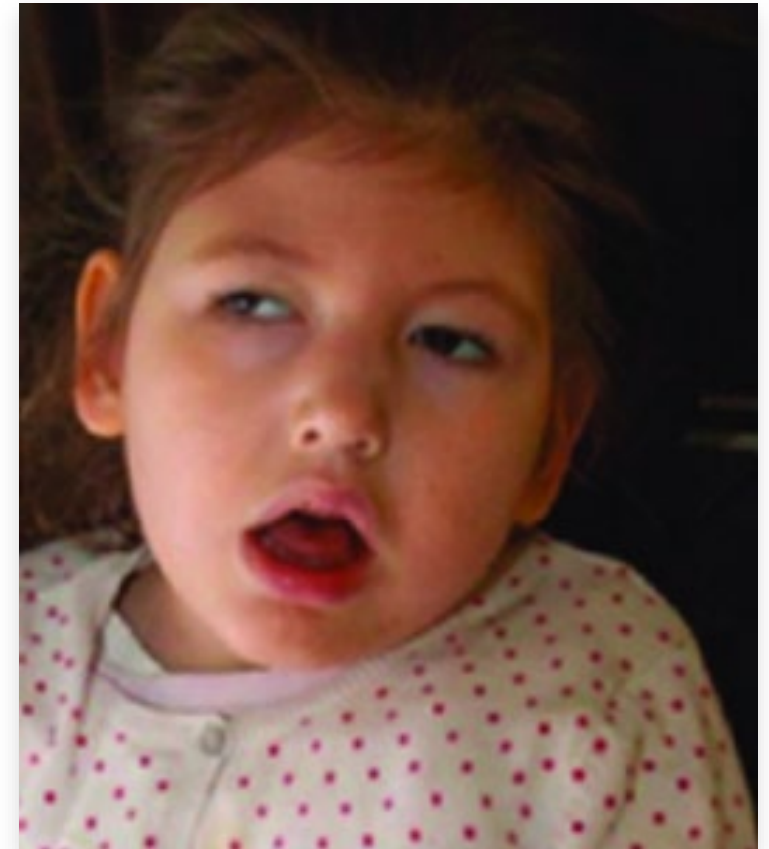


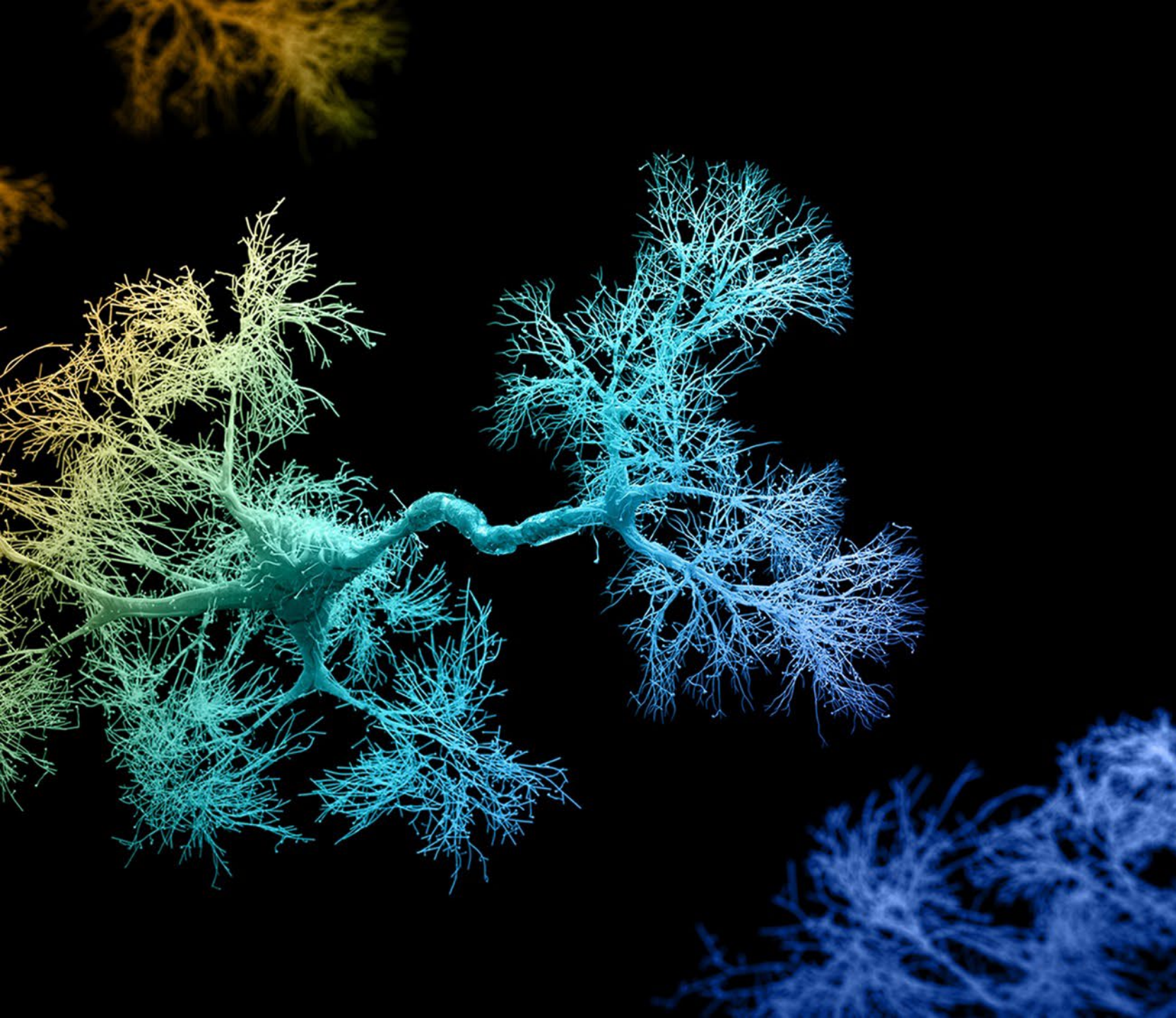
Rarely survive beyond teenage years, with SUDEP and aspiration pneumonia amongst common causes of early mortality

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





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Mechanism of Action

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

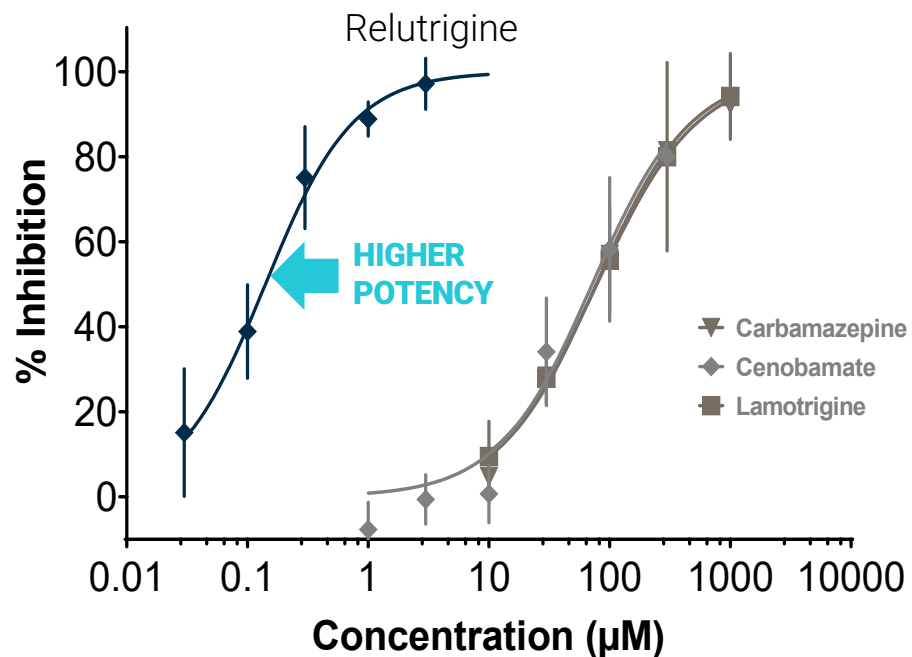
Superior selectivity for disease-state Na_v channel hyperexcitability

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

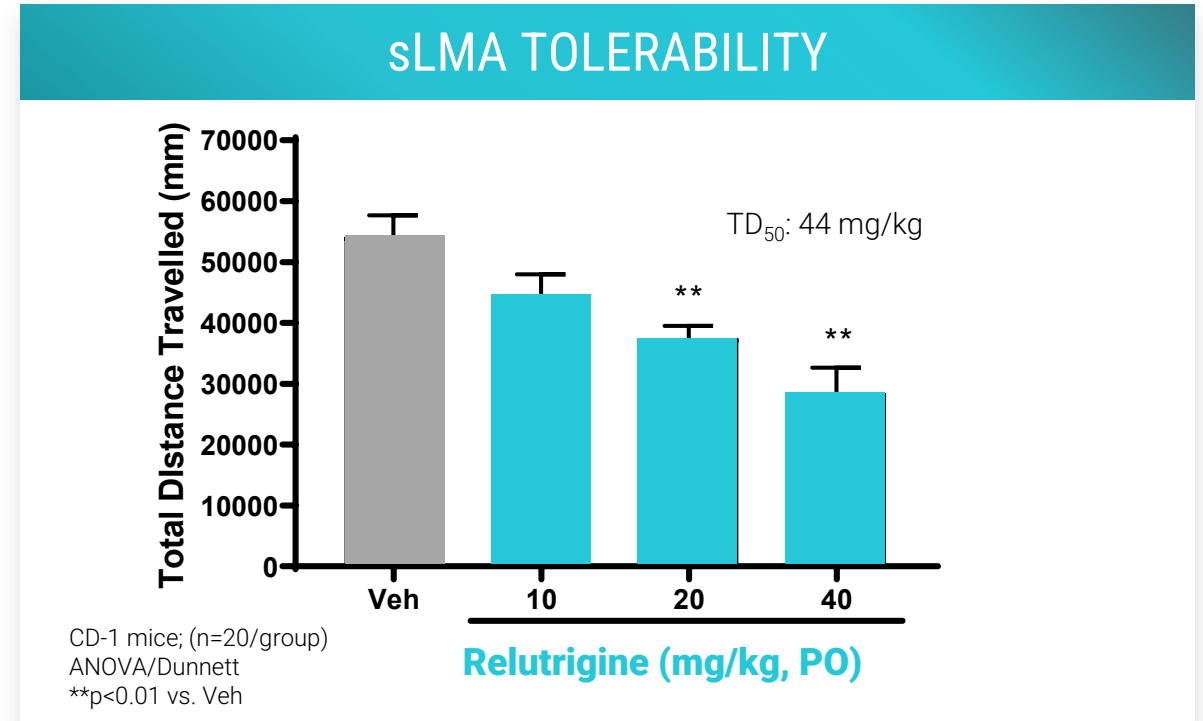
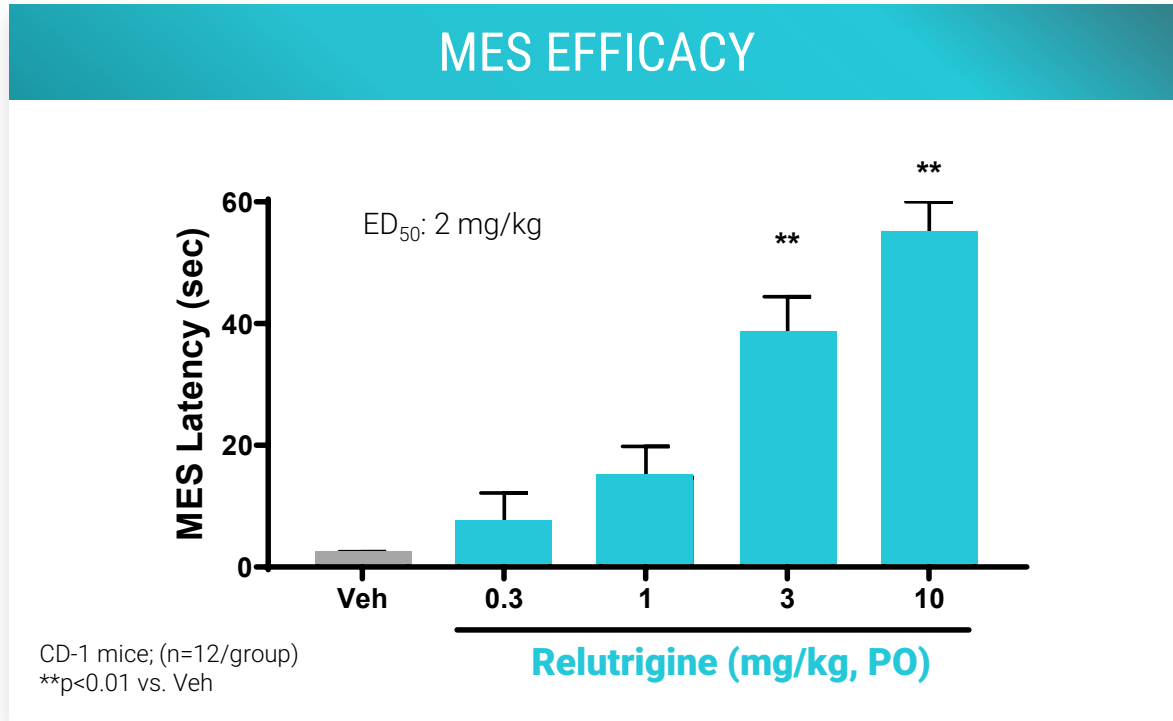
% INHIBITION OF $\text{hNa}_v1.6$ PERSISTENT I_{Na}



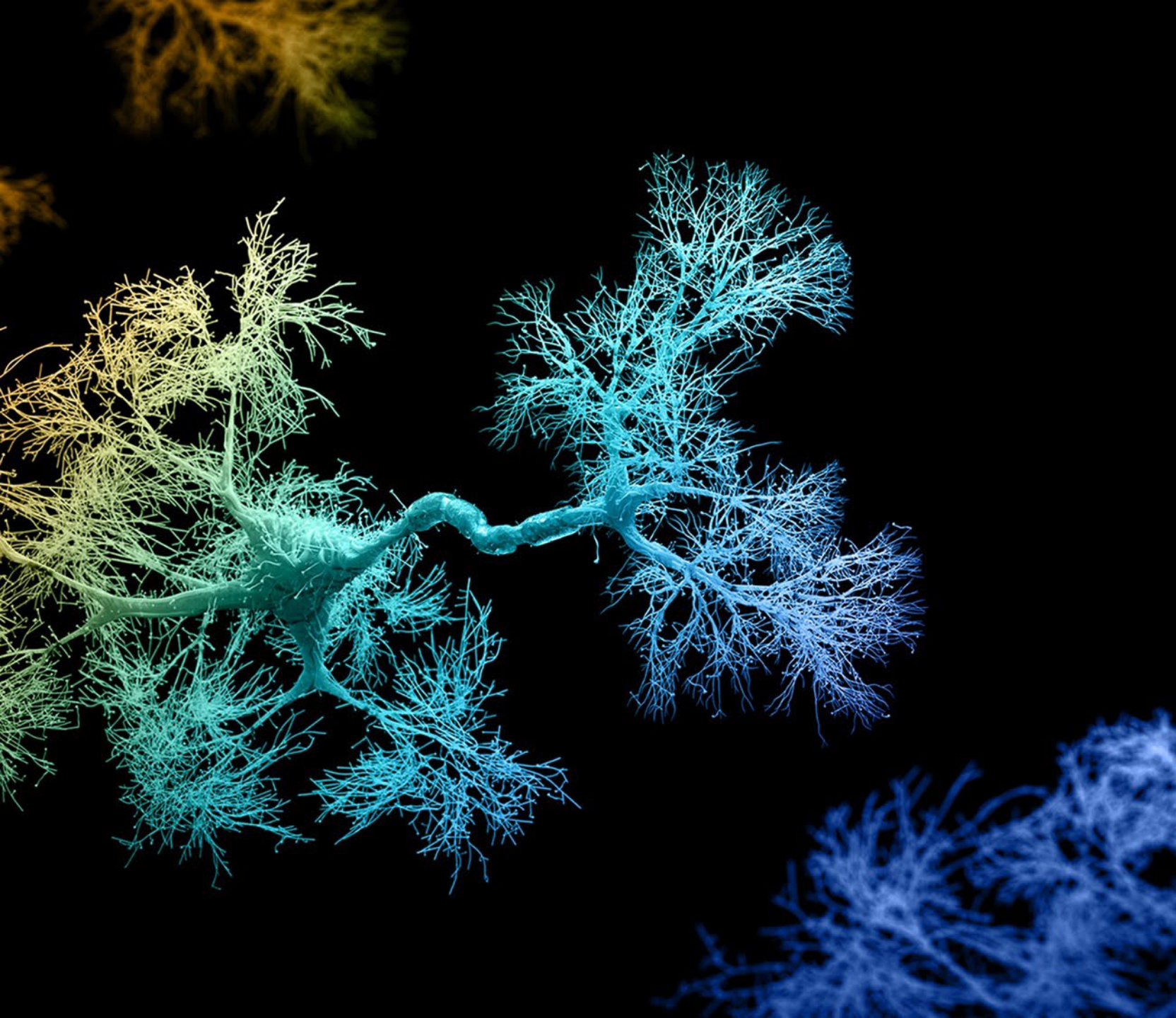
COMPARISON OF POTENCY AND SELECTIVITY

	Persistent I_{Na} IC50 (nM)	Ratio of persistent to peak inhibition	
Relutrigine	141	60	← MORE SELECTIVE
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



Molecule	Plasma Therapeutic Index
Relutrigine	16.2x

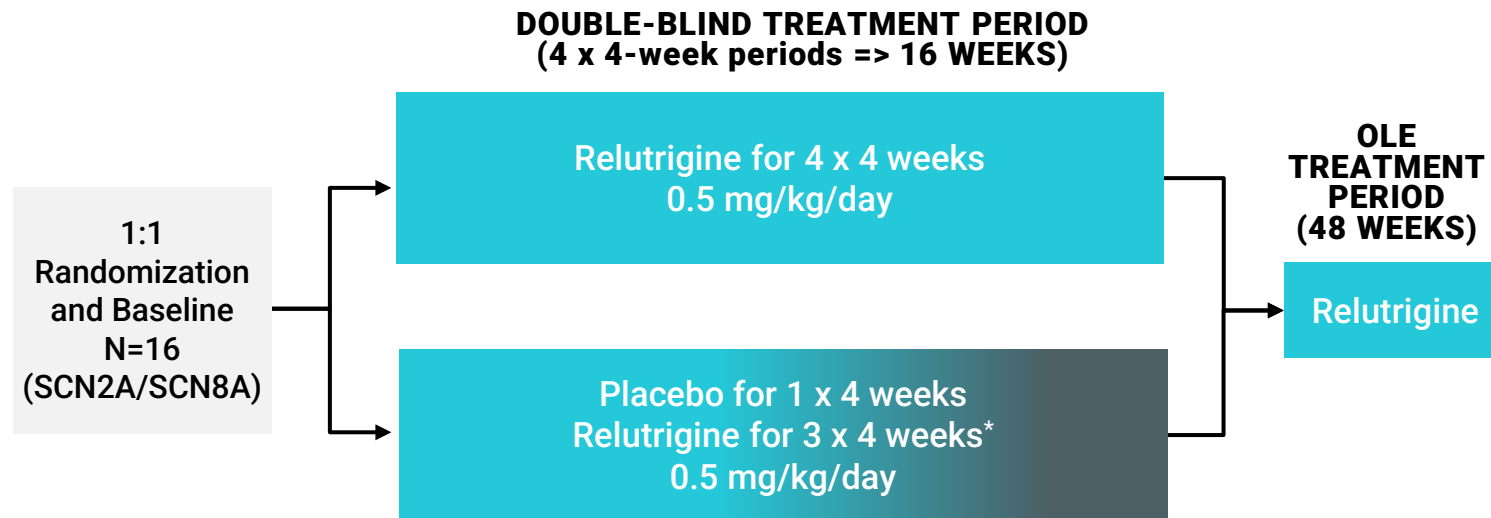


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Topline Data



Relutrigine Phase 2 EMBOLD study design and endpoints



KEY ENDPOINTS:

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

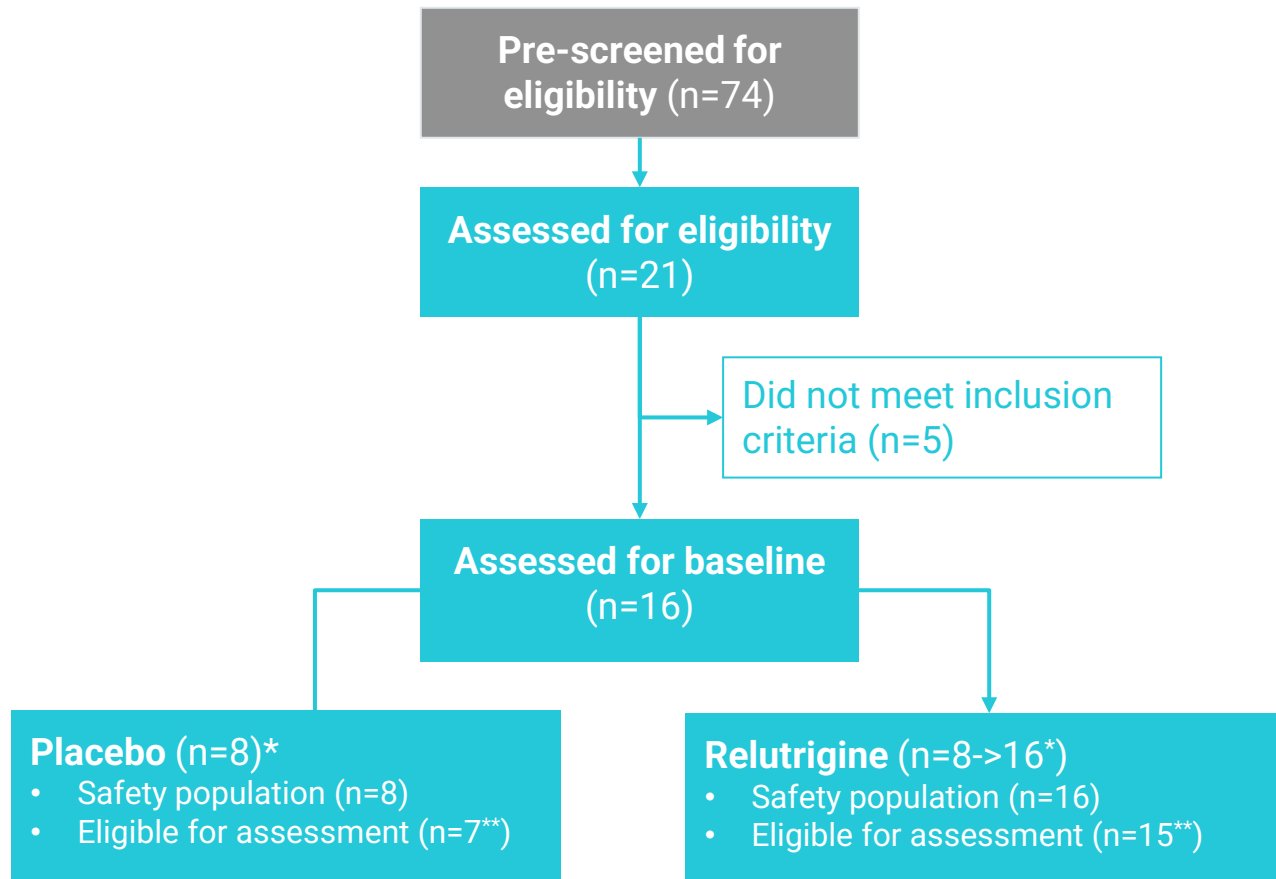
Change from baseline in monthly (28-day) motor seizure frequency

Seizure freedom achieved for a 4-week period

Clinical and Caregiver Global Impression of Improvement and Severity

* 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.

EMBOLD study disposition



Key Inclusion Criteria

- Documented severe DEE with mutations in SCN2A or SCN8A genes
- Age 2-18 years
- ≥ 8 countable motor seizures in 4 weeks preceding AND during 28-day baseline observation
- On stable ASM doses for ≥ 1 month prior 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)
<i>Any TEAE</i>	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

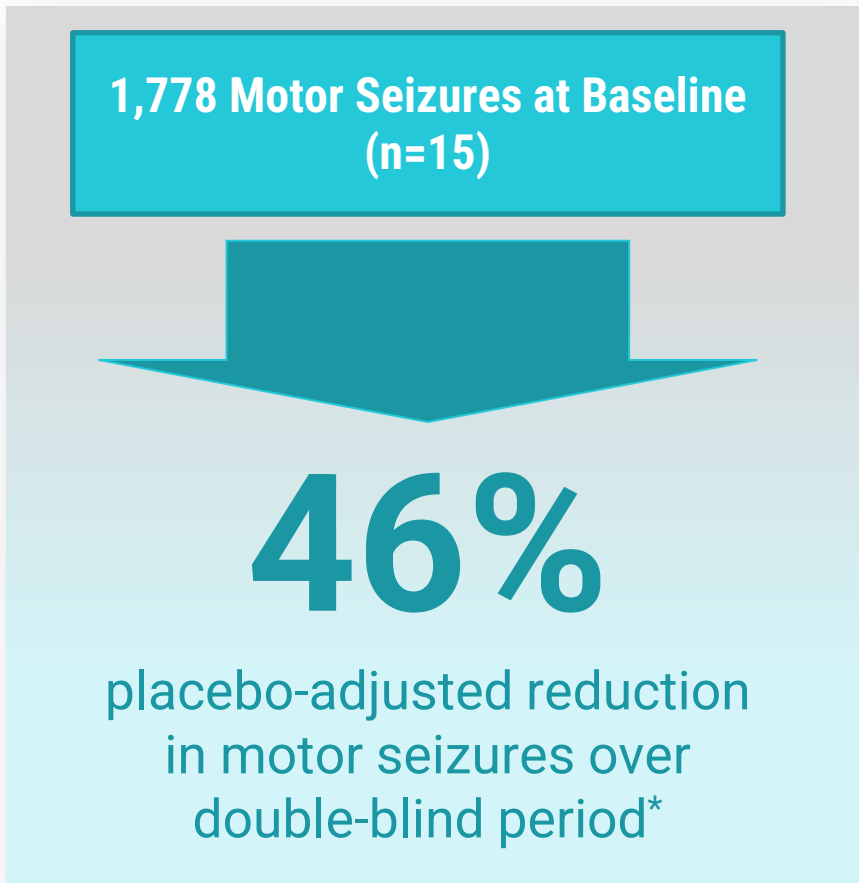
No drug-related SAE

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

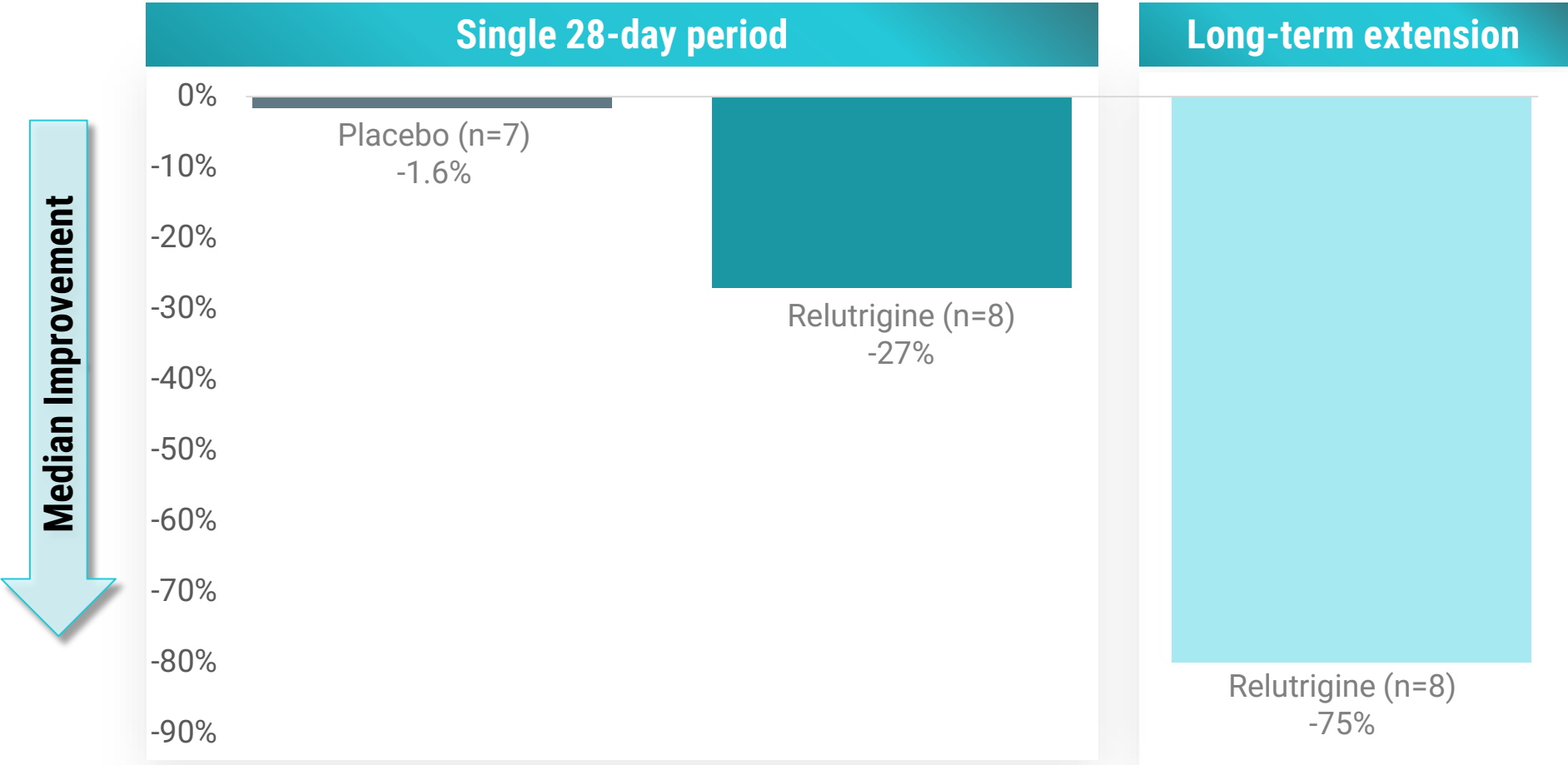
Relugirine demonstrated robust reduction in motor seizures and unprecedented seizure-free status per 28-day period



*Percent reduction derived from log-transformed placebo-adjusted relugirine 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

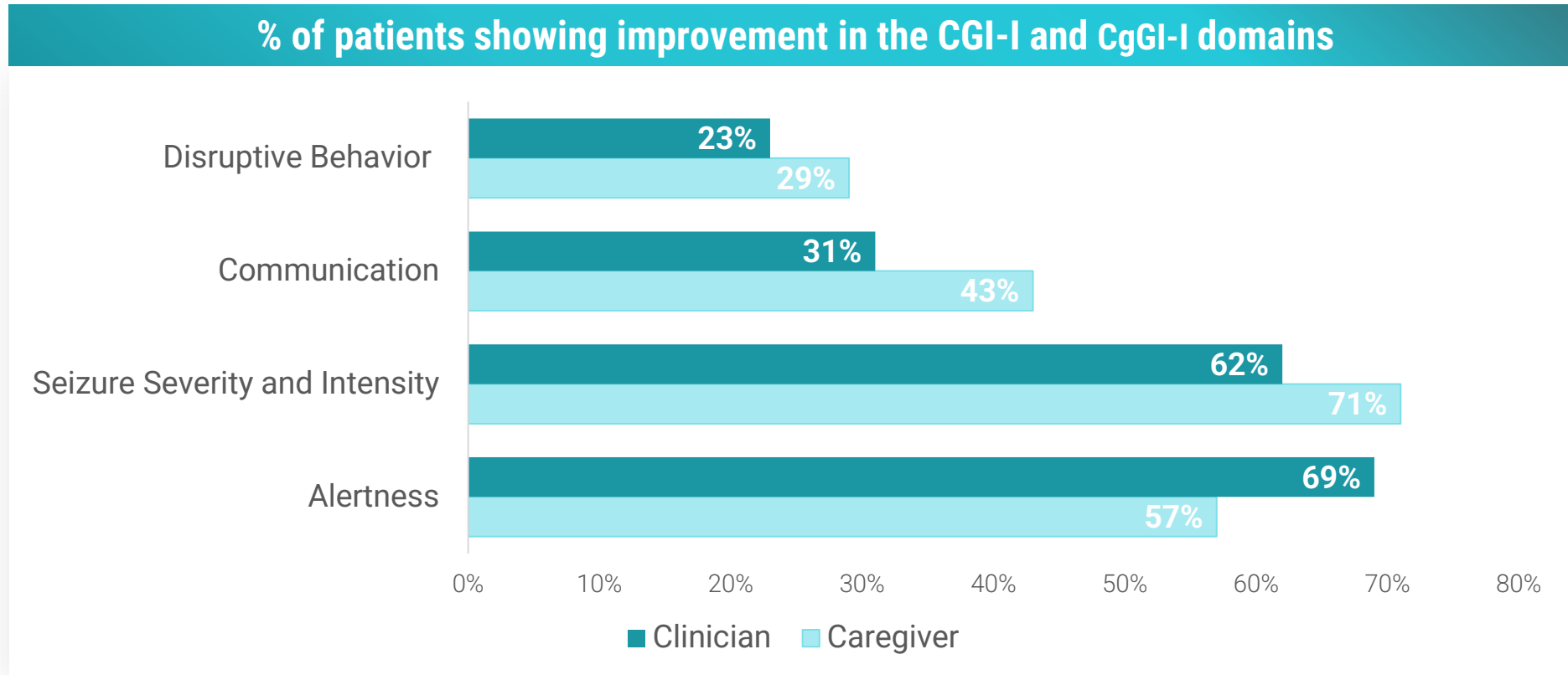


7 patients increased the dose of relutrigine to 1 mg/kg during the double-blind period, 2 additional patients during the long-term extension

Seizure freedom associated with exposures achievable by 1 mg/kg

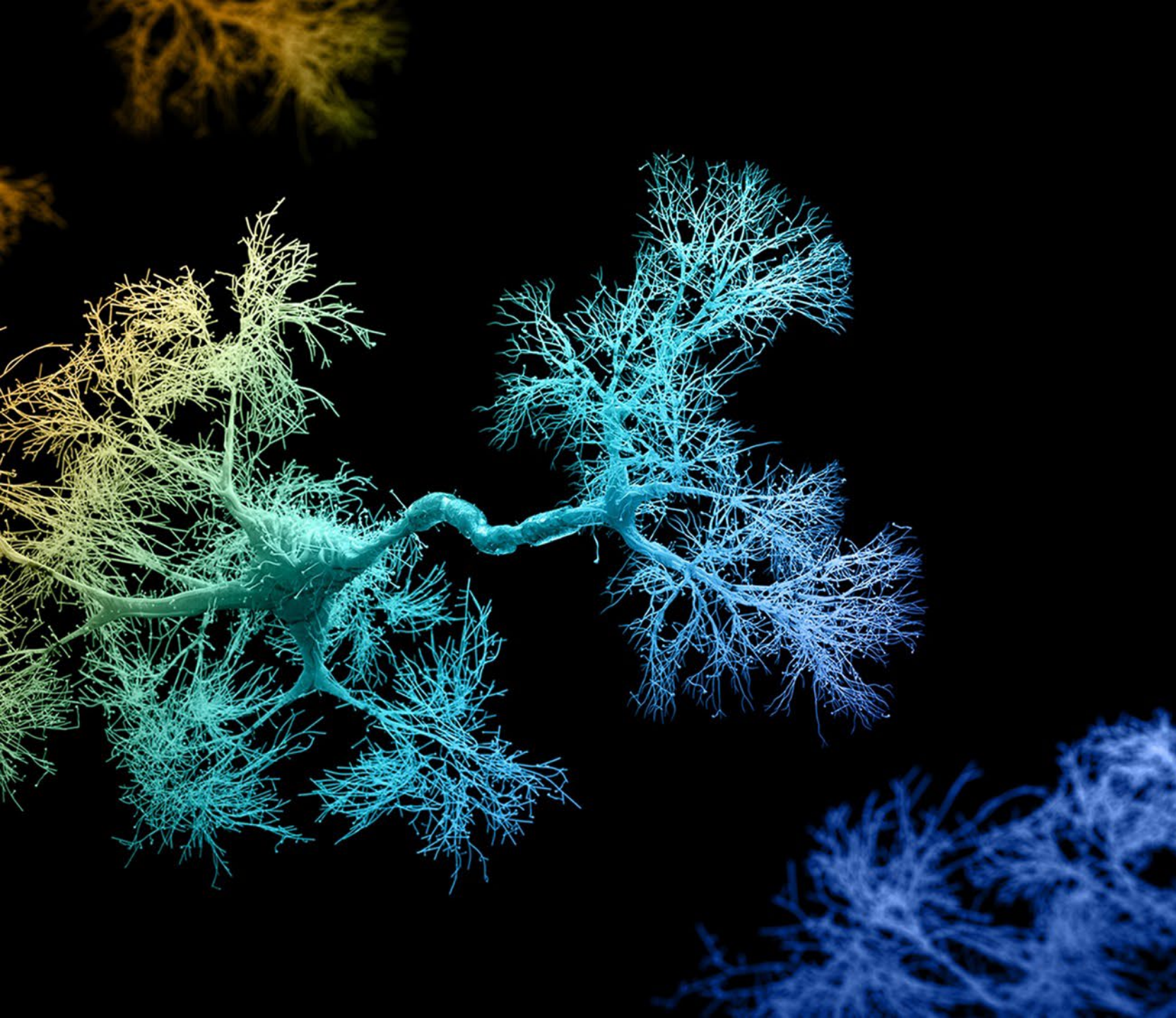


Relutrigine treatment led to disease modifying impact



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





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Next Steps

Relutrigine - *EMBOLD* delivers unparalleled results in DEE

46% placebo-adjusted seizure reduction

75% long-term median seizure reduction

Well-tolerated in a heavily treated population

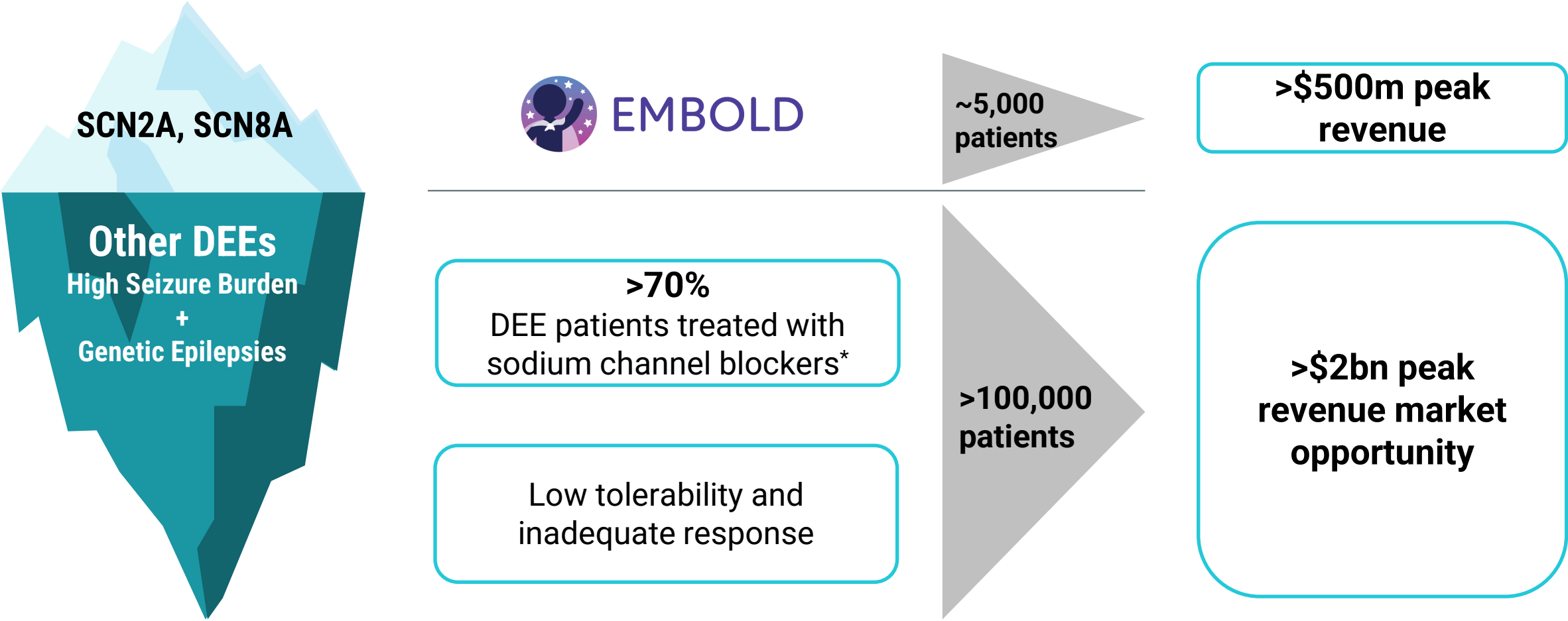
Unprecedented level of seizure freedom

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



*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

2H 2024

1H 2025

SCN2A
/8A

- EMBOLD registrational Cohort 2 initiated
- Leveraging EMBOLD successful study design

Ongoing Study

1:1
Randomization
N=80
(SCN2A/SCN8A)

Relutrigine for 4 x 4 weeks
1 mg/kg/day

Placebo for 1 x 4 weeks
Relutrigine for 3 x 4 weeks
1 mg/kg/day

DEES

Regulatory agency
input

Initiate EMERALD Trial

Preliminary Design

DEEs

Relutrigine

Placebo



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