Exhibit 99.2

LONGBOARD PHARMACEUTICALS

Corporate Presentation

AUGUST 1, 2024

Forward-Looking Statements and Other Legal Notices

This presentation contains forward-looking statements about Longboard Pharmaceuticals, Inc. ("we," "Longboard" or the "Company"), including statements regarding: our vision; commercial opportunities and analogs; the potential of bexicaserin (LP352) and LP659, including to be best-in-class, to treat indications, to have differentiated or next-generation design, selectivity, specificity and other characteristics, and to meet an unmet need; anticipated milestones and timing; the prevalence of, unmet need associated with, and market opportunity for, DEEs; the bexicaserin phase 3 global program design, initiation timing and DEE path forward; Breakthrough Therapy designation for bexicaserin; LP659's broad applicability, predictive data, commercial opportunities, next generation and selectivity characteristics, mechanism of action and preclinical data, potential to limit off-target effects, potential neurodegenerative disease therapeutic areas, indications and opportunities, topline SAD data and Phase 1 MAD initiation timing; our intellectual property; our ability to obtain regulatory approval and commercialize our drug candidates (in the manner we may propose or at all); and other statements that are not historical facts, including statements that may include words such as "will", "may", "can", "would", "plan", "anticipate", "expect", "believe", "potential", "goal", "opportunity" and similar words.

For such statements, we claim the protection of the Private Securities Litigation Reform Act of 1995. These forward-looking statements are subject to a number of risks, uncertainties and assumptions, including, but not limited to: topline or interim data may not reflect the complete or final results of a particular study or trial, and are subject to change; nonclinical and clinical data are voluminous and detailed, and regulatory agencies may interpret or weigh the importance of data differently and reach different conclusions than us or others, request additional information, have additional recommendations or change their guidance or requirements before or after approval; we have a limited operating history, a history of incurring net losses and expectation that we will continue to incur net losses for the foreseeable future, and we may never be profitable; we will need additional capital to finance our operations; clinical and preclinical drug development involves lengthy and expensive processes with uncertain timing and outcomes; we have multiple product candidates with a variety of target indications, and we may expend our limited resources to pursue a particular product candidate or indication and fail to capitalize on a product candidate or indication that may be more profitable; the regulatory approval process in the U.S. and in other territories is lengthy, time consuming and inherently unpredictable, and we may not be able to obtain or maintain regulatory approval to conduct our clinical trials (in the manner we propose or at all) or, ultimately, to market our product candidates; receiving Breakthrough Therapy designation ma not lead to a faster development or regulator review or approval and does not mean bexicaserin will receive marketing approval for seizures associated with DEEs or for any other indication; risks relating to our ability to commercialize our product candidates and compete in the marketplace; risks regarding our license and dependencies on others; risks relating to our ability to obtain and maintain intellectual property protection and freedom to operate for our product candidates; risks relating to our ability to manage our growth; and other risks and factors disclosed in our filings with the U.S. Securities and Exchange Commission (the "SEC"). We operate in a very competitive and rapidly changing environment. New risks emerge from time to time. It is not possible for our management to predict all risks, nor can we assess the impact of all factors on our business or the extent to which any factor, or combination of factors, may cause actual results to differ materially from those contained in any forward-looking statements we may make. The forward-looking events and circumstances discussed in this presentation may not occur and actual results could differ materially and adversely from those anticipated or implied in the forward-looking statements. Except as required by law, we assume no responsibility for the accuracy and completeness of the forward-looking statements, and we undertake no obligation to update any forward-looking statements after the date of this presentation to conform these statements to actual results or to changes in our expectations.

Certain information contained in or that may orally accompany this presentation relate to or are based on studies, research, publications, surveys and other data obtained from third-party sources and our own internal estimates and research. While we believe these third-party studies, research, publications, surveys and other data to be reliable as of the date of this presentation, they have not been independently verified, and we make no representations as to the adequacy, fairness, accuracy or completeness of any information obtained from third-party sources.

This presentation discusses product candidates, bexicaserin and LP659, that have not yet been approved for marketing by the U.S. Food and Drug Administration (the "FDA") or any other regulatory authority.

Differentiated & innovative clinical approaches

CNS programs with significant commercial opportunities

Bold & experienced leadership with expertise in CNS and rare disorders

LONGBOARD THESIS

Our Vision is Backed by **20+ Years** of World Class GPCR Research

VISION

A world where ~~**devastating**~~ neurological conditions are no longer devastating

Pipeline with differentiated PK / PD and target engagement

Relevant M&A analogs

JAZZ - GW $7.2B
PFE - ARNA $6.7B
UCB - ZGNX $1.9B

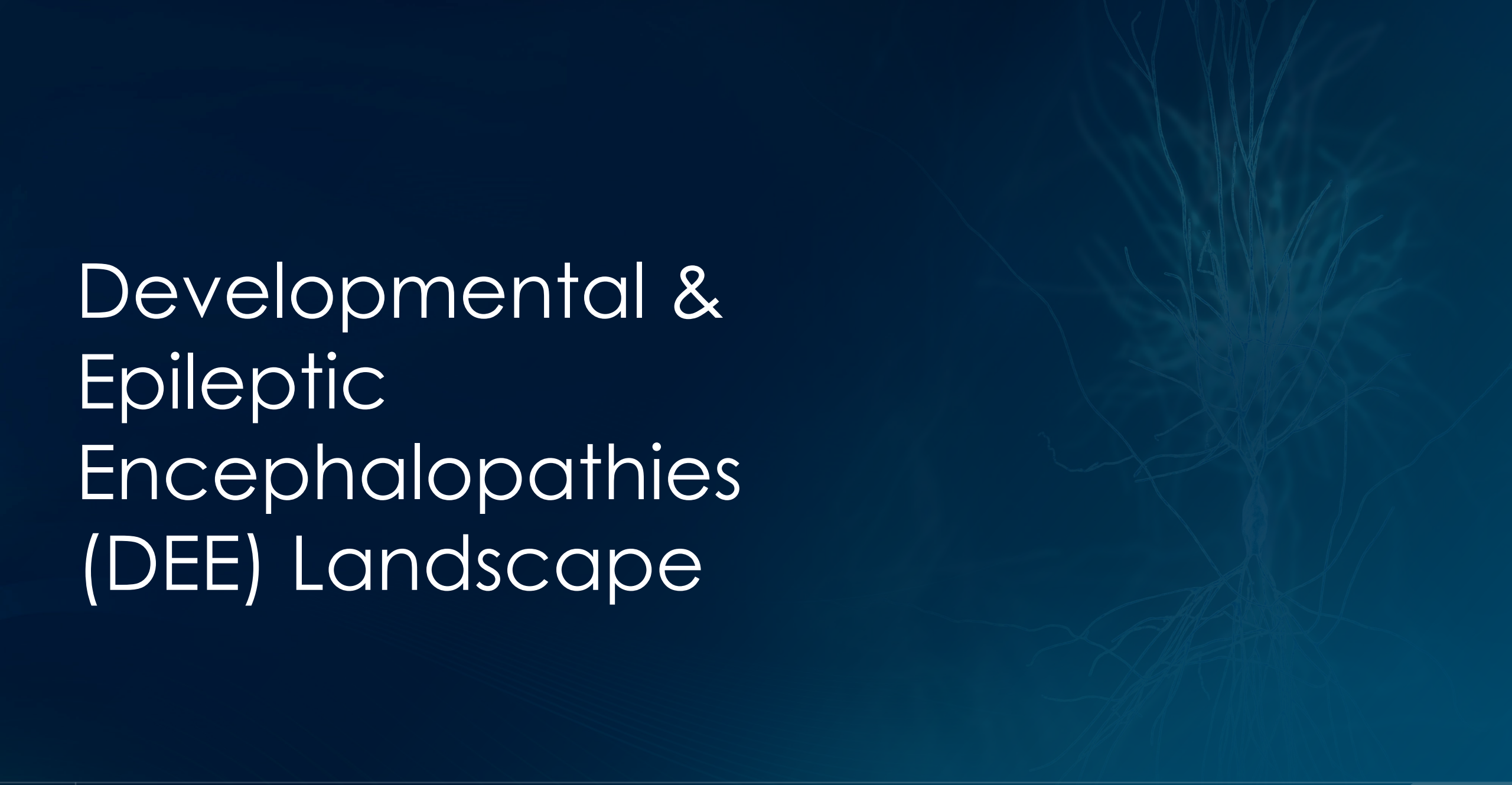
Well-understood targets

Longboard's Potentially Best-in-Class Product Candidates

Program	MOA	Therapeutic Area	Preclinical	Ph I	Ph II	Ph III	Milestones
Bexicaserin (LP352)	5-HT2C Superagonist	DEEs and other refractory epilepsies					✓ PACIFIC Study Topline Data – Q1 2024 ✓ PACIFIC OLE Data – Q2 2024 ✓ End of Phase 2 Meeting – Q2 2024 ✓ Breakthrough Therapy Designation – Q2 2024 Global Ph 3 Program Initiation – by YE 2024
LP659	S1P Receptor Modulator	Multiple neurological diseases					✓ Ph 1 Initiation – Q4 2023 ✓ Ph 1 Single Ascending Dose Completion – Q2 2024 Ph 1 Multiple Ascending Dose Trial Initiation – Q1 2025

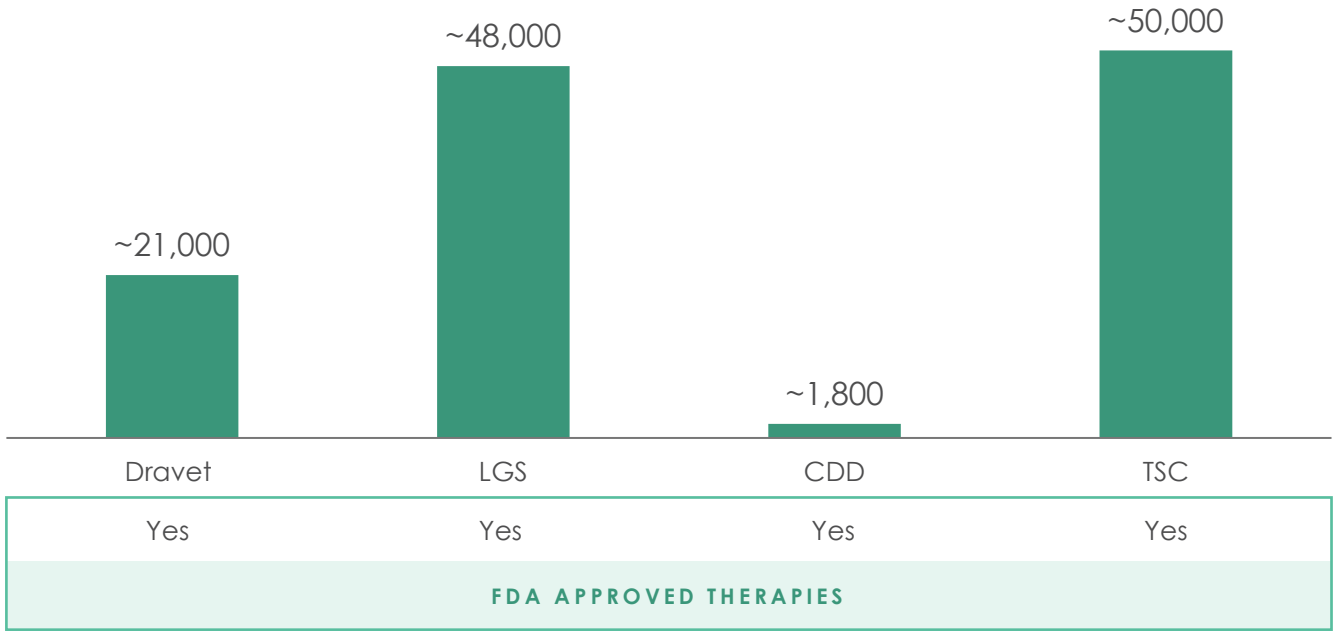
We hold rights to other product candidates through a License Agreement with Arena.
Definitions: DEEs=developmental and epileptic encephalopathies; S1P=sphingosine 1-phosphate; PK=pharmacokinetics; PD=pharmacodynamics; EEG=electroencephalogram; OLE=Open-Label Extension

Developmental & Epileptic Encephalopathies (DEE) Landscape



4 DEE Syndromes Have Approved Therapies; 20+ Have None

"Approved 4" DEE Prevalence (US)



Other DEEs

- DUP15q Syndrome
- SCN2A-DEE
- SCN8A-DEE
- KCNQ2-DEE
- KCNQ3-DEE
- Angelman Syndrome
- Landau-Kleffner Syndrome
- Early Myoclonic Encephalopathy
- KCNT1-DEE
- SynGAP1-DEE
- Rett Syndrome
- Ohtahara Syndrome
- PCDH19
- EE w/ Continuous Spike-Wave
- Myoclonic Atonic Epilepsy
- Ring14
- Ring20
- Others

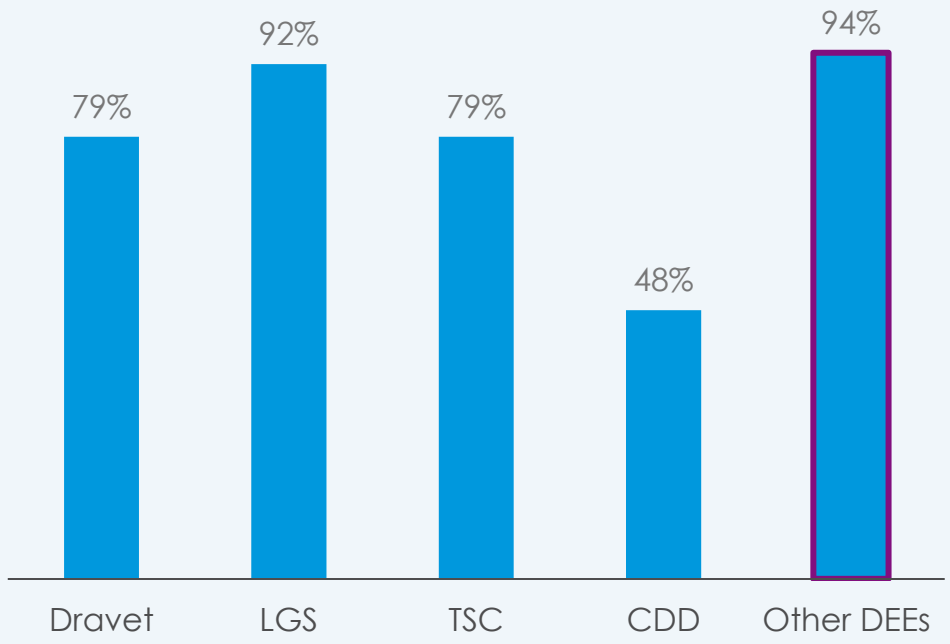
NO SPECIFICALLY APPROVED THERAPIES

The prevalence of all "Other DEEs" could exceed the total of the "Approved 4" combined

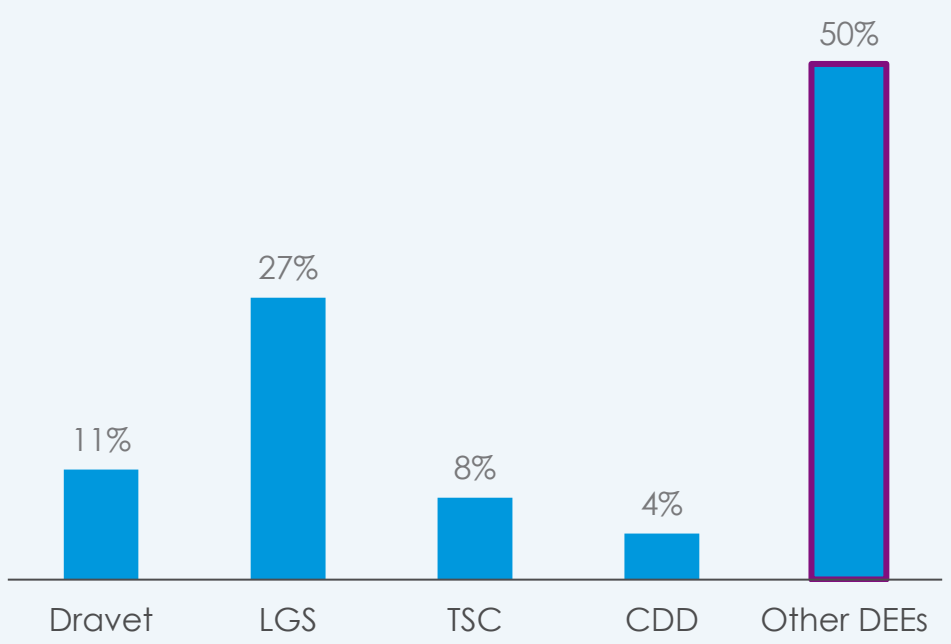
Sources: Dravet Syndrome Foundation, LGS Foundation
Definitions: LGS = Lennox-Gastaut Syndrome, CDD = CDKL5 Deficiency Disorder, TSC = Tuberous Sclerosis Complex; DEE = Developmental and Epileptic Encephalopathy

Nearly All Surveyed HCPs Treat Patients with All DEE Diagnoses; Collectively, the Number of "Other DEEs" is Significant

DEE Types Treated in the Past 12 Months



Percent of Patients with DEE Type



Based on Longboard sponsored third-party qualitative and qualitative market research studies involving physicians specializing in neurology or epileptology.
See slide 30 for more information about the studies.

Bexicaserin (LP352)

Potential Best-in-Class 5-HT2C Superagonist - Entering a Ph 3 Program with the Goal of Treating a Broad Range of DEEs

The Potential of Bexicaserin

✓ Greater Selectivity and Specificity

- Designed to bind only to the 5-HT2C receptor
- No detected activity at receptors associated with significant AEs: 5-HT2B (VHD and PAH) & 5-HT2A (psychiatric)*

✓ Preclinical Validation

- Reduced seizure, epileptiform activity, duration & number of epileptiform events in fish and rodent models

✓ Clinical Validation - Ph 1 Healthy Volunteers

- No observed food effect in SAD trial
- Plasma & CSF PK concentration increased in a dose-dependent & consistent manner**
- Sustained dose-dependent effects on qEEG activity after continuous dosing**

✓ Clinical Validation in DEE Participants

PACIFIC
Developmental and Epileptic Encephalopathies Study

Improvement in Median Countable Motor Seizures

59.8%

74.6% Dravet

50.8% LGS

65.5% DEE Other

Breakthrough Therapy Designation Granted in DEEs

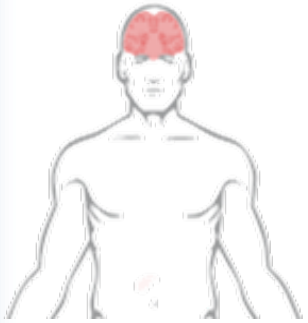
IP protection* up to 2041**

*Radioligand binding assays assessing >150 targets showed significant affinity only to 5 -HT2C receptors
** Based on first two cohorts from the 102 study
***Composition of matter through 2036 with potential for PTE / PTA (2041)
Definitions: VHD = valvular heart disease; PAH = pulmonary arterial hypertension; AEs = adverse events; SAD = single-ascending dose CSF = cerebrospinal fluid

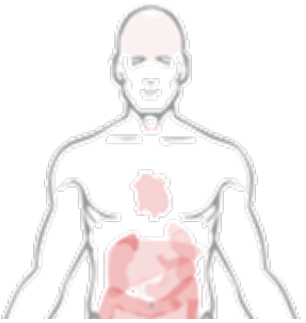
Bexicaserin (LP352) Designed to be a Next-Generation 5-HT2C with Greater Selectivity and Specificity

	Serotonin Receptor Subtype	EC_{50}, nM	Ki, nM	Potential Adverse Events Per Receptor Subtype
Bexicaserin (LP352) 5-HT2C Superagonist	**5-HT2C**	**~120**	**~50**	CNS, GI
	5-HT2B	Not detectable	Not detectable	n/a
	5-HT2A	Not detectable	Not detectable	n/a
Nordexfenfluramine (an active metabolite of fenfluramine) [1]	5-HT2C	72.4	10.4	CNS, GI
	5-HT2B	25.7	9.8	Cardiac, Pulmonary
	5-HT2A	1778	120.2	Psychiatric
Lorcaserin[2]	5-HT2C	39	13	CNS, GI
	5-HT2B	2380	147	n/a
	5-HT2A	553	92	Psychiatric

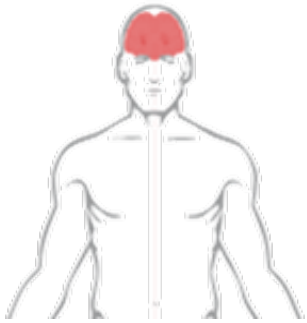
5-HT2A



5-HT2B



5-HT2C

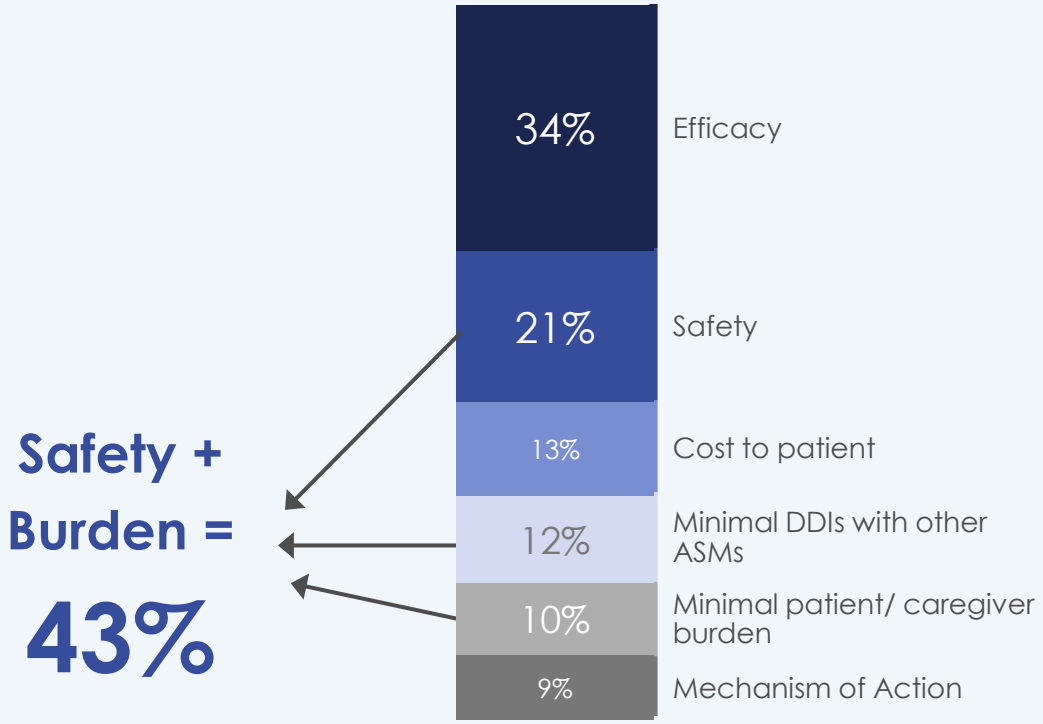


1 Third party study previously commissioned by Arena, 2 BELVIQ FDA approved prescribing information 06/2012; Note: The above table is for illustrative purposes only and is not a head-to-head comparison. Differences exist between in vitro study designs and methodologies, and caution should be exercised when comparing data across studies
Definitions: CNS= Central nervous system ; GI = Gastrointestinal; ASM = Anti-seizure medication
Graphic source: Human Protein Atlas

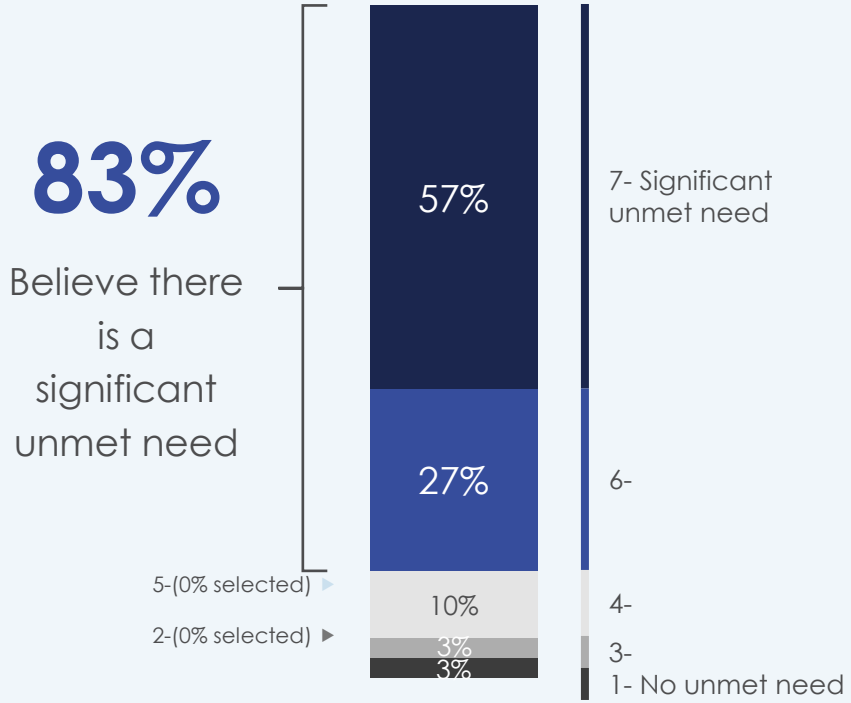
Surveyed HCPs Evaluate ASMs by Balancing Efficacy, Safety & Burden

Influence on ASM Decisions

When allocating 100 points across factors

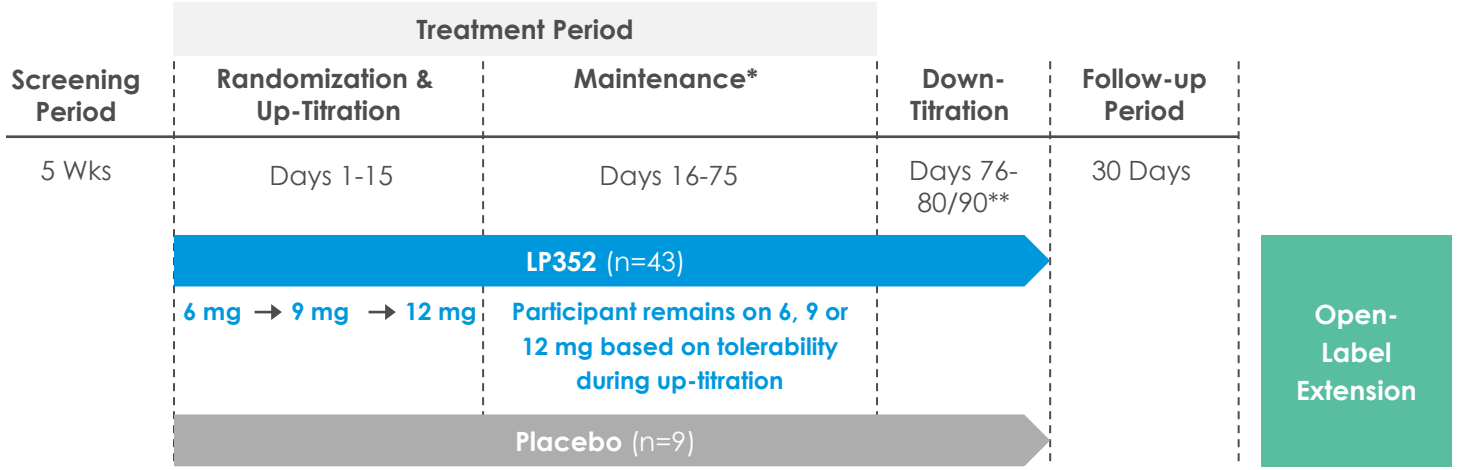


Unmet Need for New ASM Approved to Treat a Broad Range of DEE Types



Based on Longboard sponsored third-party qualitative and qualitative market research studies involving physicians specializing in neurology or epileptology. See slide 30 for more information about the studies.
*Survey sampled product profile for the 5-HT2C agonist that included an efficacy of 37-44% reduction in countable motor seizure frequency and generally well tolerated with BID dosing

Bexicaserin (LP352) Ph 1b/2a PACIFIC Study in Participants with DEEs



Key Inclusion Criteria:

- DEEs with average of ≥ 4 motor seizures per 4-week period during the 12 weeks prior to screening and ≥ 4 motor seizures in the 4-week period of screening
- DEEs (multiple syndromes) including LGS, Dravet syndrome, SCN2A-related epilepsies, CDD, among others

Key Exclusion Criteria:

- Use of fenfluramine & lorcaserin

Basic Information:

- **Sites:** 34 sites
- **Ages:** ≥ 12 to ≤ 65 yrs old

No Echocardiograms Required in PACIFIC

PACIFIC
Developmental and Epileptic Encephalopathies Study

Double-blind, placebo-controlled study to assess the safety, tolerability, pharmacokinetics and efficacy of bexicaserin

Study Objectives:

Evaluate reduction in countable motor seizures across a broad group of epilepsies

Identify potential indications for pivotal studies

Analyze concentration response to understand dosing in different seizure types and disorders

* Maintenance Dose of bexicaserin (TID): 6 mg, 9 mg, 12 mg or placebo TID
** Up to a 15-day down-titration/taper period (reducing dose every 5 days) depending on the last maintenance dose
Definitions: LGS = Lennox-Gastaut Syndrome, CDD = CDKL5 Deficiency Disorder

Participant Disposition and Safety

	Overall (N = 52)	
Parameter n (%)	**Bexicaserin (n=43)**	**Placebo (n=9)**
Safety Set	43 (100)	9 (100)
Full Analysis Set	35 (81.4)	9 (100)
Participants Completed	32 (74.4)	9 (100)

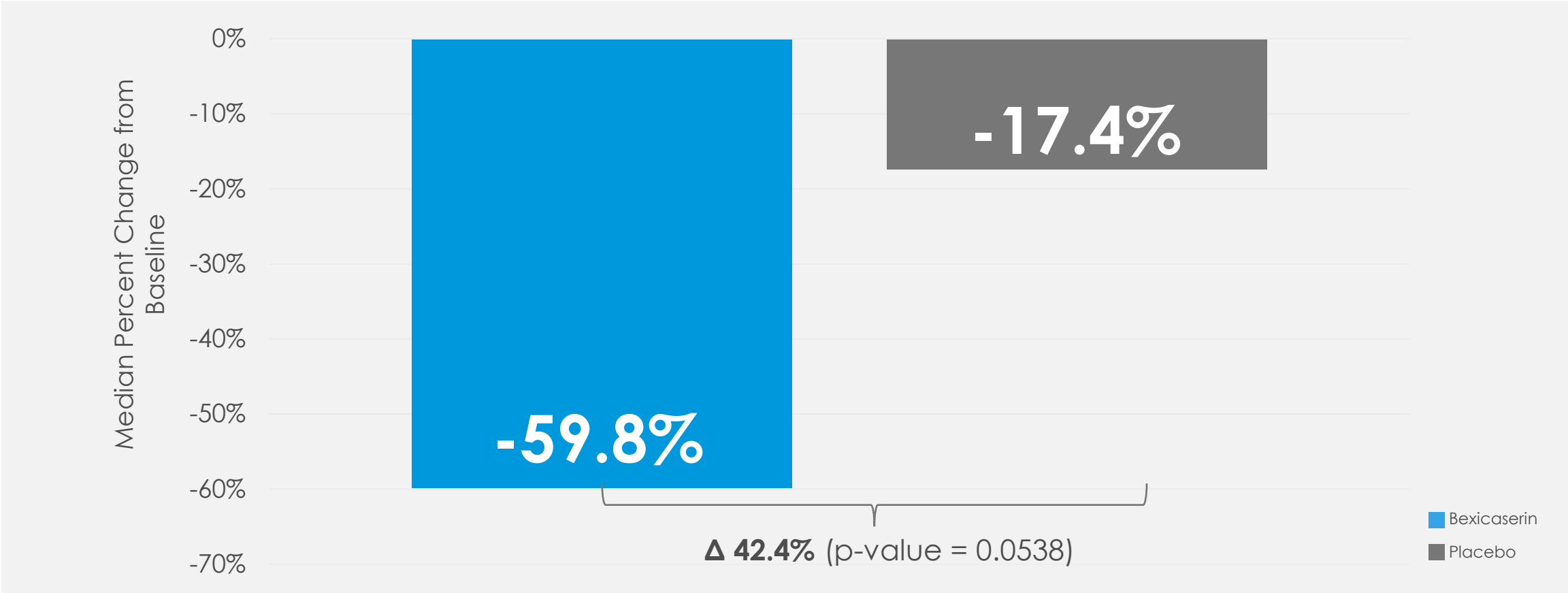
Patients enrolled included 40 adults (18+) and 12 adolescents (12-17)

- SAEs in the bexicaserin group were comprised of ankle fracture (2), constipation and increased seizures
- During the titration period, 16.3% of bexicaserin treated participants discontinued due to an adverse event (AE)
- During the maintenance period, 4.7% bexicaserin treated participants discontinued due to an AE
- The most frequent AE leading to discontinuation was somnolence

		Bexicaserin (N=43)	**Placebo (N=9)**
		n (%)	n (%)
Most Common AEs	Somnolence	12 (27.9)	1 (11.1)
	Decreased appetite	9 (20.9)	0
	Constipation	6 (14.0)	0
	Diarrhea	5 (11.6)	0
Concomitant Medications**	Clobazam	21 (48.8)	2 (22.2)
	Cannabidiol	14 (32.6)	3 (33.3)
	Lamotrigine	13 (30.2)	4 (44.4)
	Levetiracetam	16 (37.2)	1 (11.1)

AE, adverse event; n, number of participants; SAE, serious adverse event.
Safety Set includes all participants who were administered at least one dose of study medication.
Full Analysis Set includes all participants who complete Part 1 (titration) and have at least 1 post-baseline seizure measurement during Part 2 (maintenance).
*Over 10% of bexicaserin participants and greater than placebo **Represents some of the most common concomitant medications Reference: AAN 2024 Poster

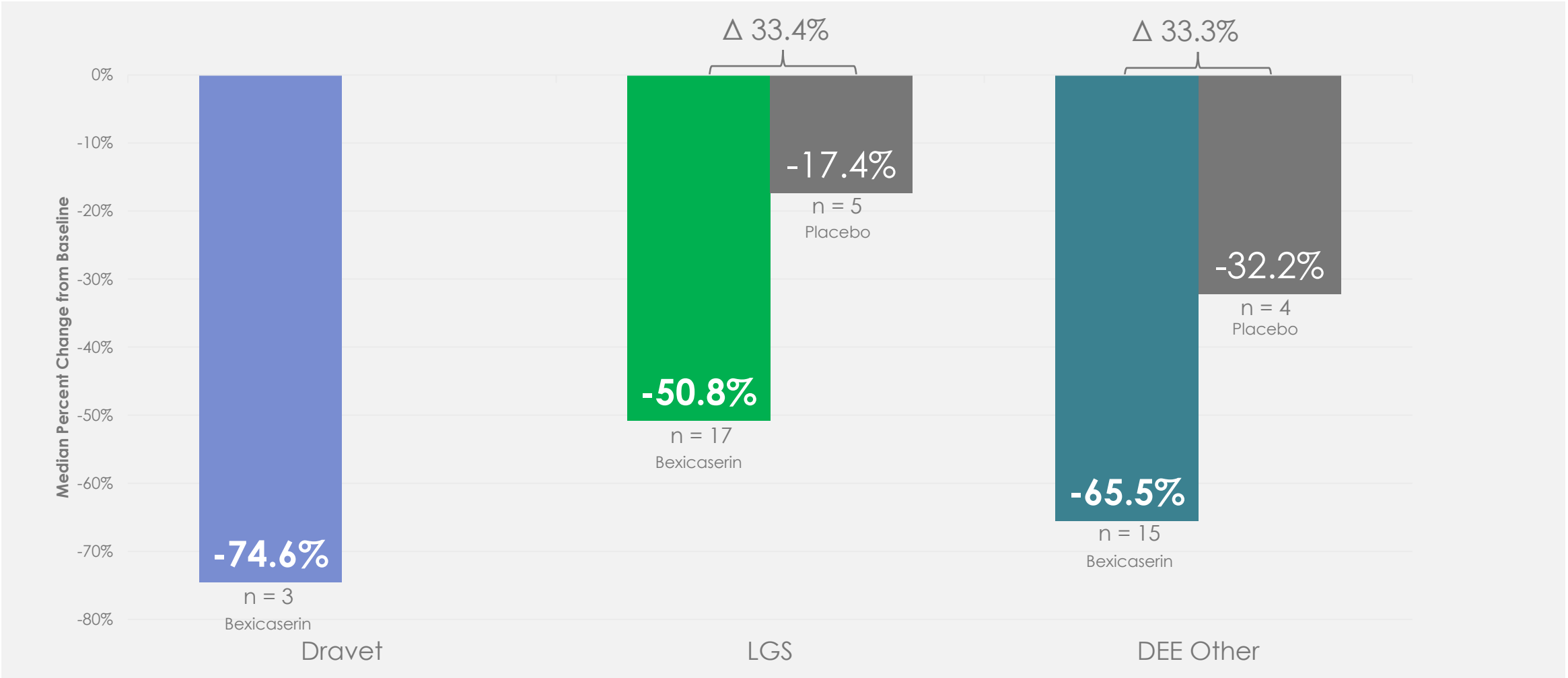
Bexicaserin Achieved Median Observed Countable Motor Seizure Reduction of 59.8% vs. 17.4% Placebo Across the DEE Study Population



Bexicaserin Achieved Placebo Adjusted Mean Seizure Reduction of 51.9% (p-value = 0.0206, post-hoc exploratory analysis)

DEE, Developmental and Epileptic Encephalopathies.
Reference: Data on file.

Bexicaserin (LP352) Achieved Median Seizure* Reduction Across Dravet, LGS, DEE Other Cohorts



*Countable Motor Seizures

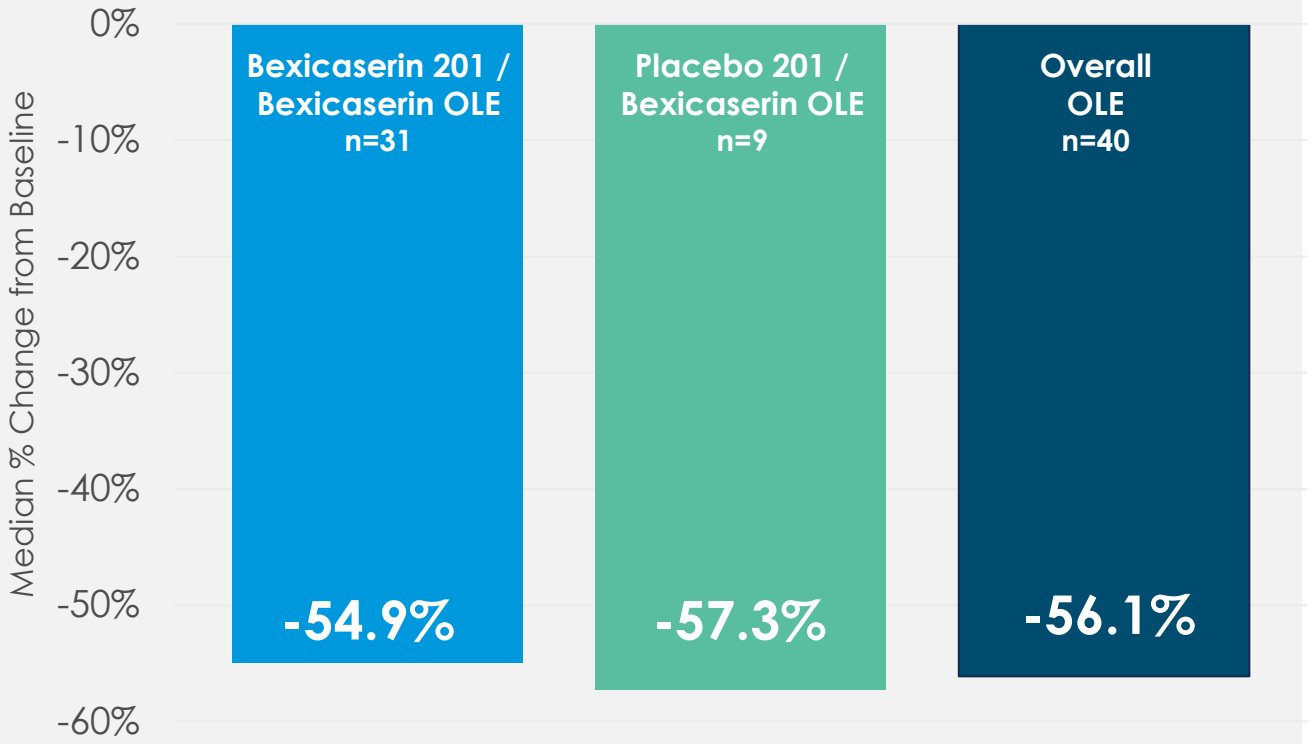
Individual Percent Change from Baseline in Observable CMS Frequency During Treatment Period and Encephalopathy Type

"—" Depicts Median Observable Countable Motor Seizure Frequency Reduction. CMS = Countable Motor Seizures, LGS = Lennox-Gastaut Syndrome; DEE = Developmental and Epileptic Encephalopathy; Reference: Data on file.

Summary: Interim Analysis from Bexicaserin (LP352) OLE Study

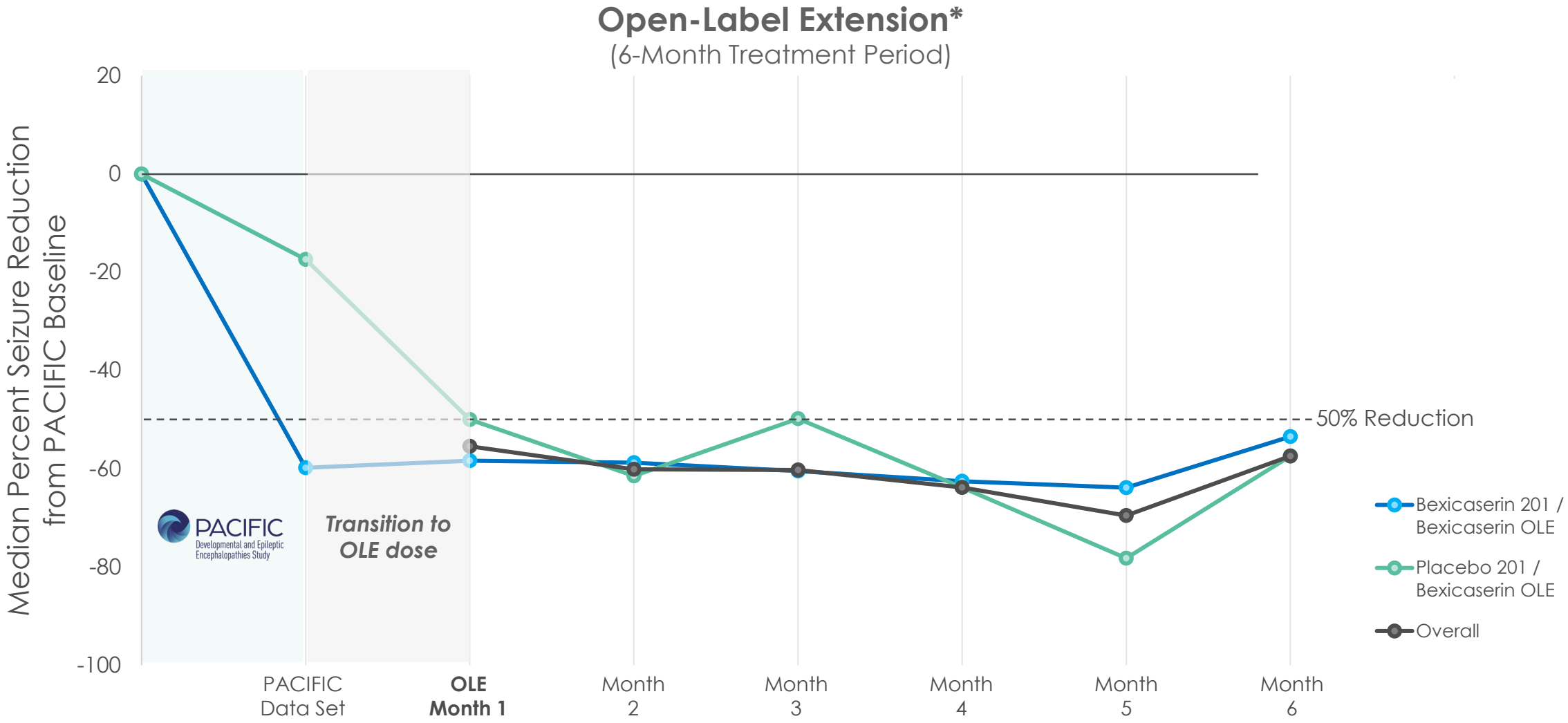
- **100% of PACIFIC completers continued into OLE** (95.1% in OLE at 6-months)
  - PACIFIC completers n=41 (DS=3, LGS=20, DEE Other=18)
- **Sustained response** over an approximate 6-month treatment period
- **Favorable safety and tolerability** results observed
- **PACIFIC (201 Study) Placebo participants:**
  - **All successfully titrated up** and entered maintenance phase of the OLE
  - **Motor seizure reduction** consistent with bexicaserin efficacy observed in PACIFIC

Median Observed Countable Motor Seizure Reduction Across DEE Study Population*



Definitions: OLE=Open-label extension; DS=Dravet syndrome; LGS=Lennox-Gastaut syndrome; DEE=Developmental and Epileptic Encephalopathy
*Percent change from PACIFIC Study baseline in frequency over treatment period of approximately 6 months in the OLE Study (LP352-202)

Bexicaserin (LP352) Median Observed Countable Motor Seizure Reduction in OLE



*Percent change from PACIFIC Study (LP352-201) baseline in monthly seizure frequency

Bexicaserin Phase 3 Global Program – DEE Path Forward

Subject to Ongoing Discussions with Regulatory Agencies

Planned Study Parameters:

Primary Endpoint: Reduction in Countable Motor Seizures

Ages: ≥ 2 to ≤ 65 yrs old (weight-based dosing for pts of lower weight/age)

Sites: Sites across the US, AUS, EU, other potential regions

Open-Label Extension (OLE): Participants who complete either of the Ph 3 studies are eligible to enter a 52-week OLE

Breakthrough Therapy designation granted for bexicaserin for the treatment of seizures associated with Developmental and Epileptic Encephalopathies (DEEs) for patients ≥ 2 years of age

LGS = Lennox-Gastaut Syndrome

Global Phase 3 Program Expected to Initiate in 2024

Bexicaserin (LP352) achieved a median percent reduction from baseline in seizure frequency during the treatment period of:

59.8% in broad DEE population (42.4% placebo-adjusted)

74.6% in Dravet cohort

50.8% in LGS cohort (33.4% placebo-adjusted)

65.5% in DEE Other cohort (33.3% placebo-adjusted)

Results were shown on top of a contemporary polytherapy background with multiple ASMs including cannabidiol (**32.7% of participants were receiving cannabidiol**)

Favorable safety and tolerability results

- **No echocardiograms required** in PACIFIC study
- Metabolized via UGT pathway – potentially reduces risk of Drug-Drug Interactions
- 86% of participants achieved the highest dose of 12 mg of bexicaserin in the maintenance period

100% of PACIFIC participants who completed the study **entered the Open Label Extension (OLE) Study**

OLE Interim Analysis

- **Sustained response** over an approximate 6-month treatment period
- Favorable safety and tolerability results observed
- All PACIFIC **Placebo participants successfully titrated up** and entered maintenance phase of the OLE
- Motor **seizure reduction consistent with bexicaserin efficacy** observed in PACIFIC

*Definitions: ASMs = Anti-Seizure Medications; UGT = Uridine Diphosphate Glucuronosyltransferase

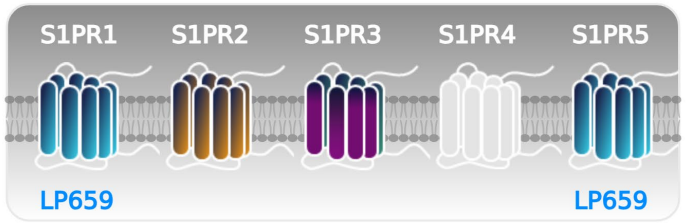
LP659

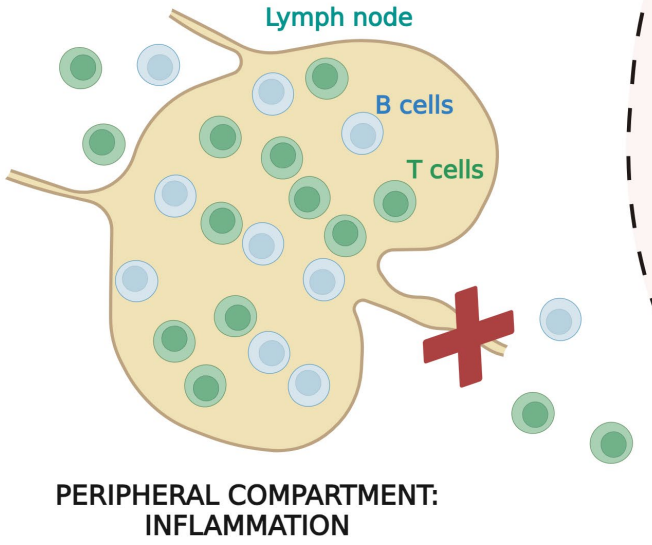
Centrally Acting, Highly Selective Sphingosine-1-Phosphate (S1P) Receptor Modulator Targeting Multiple Neurological Diseases

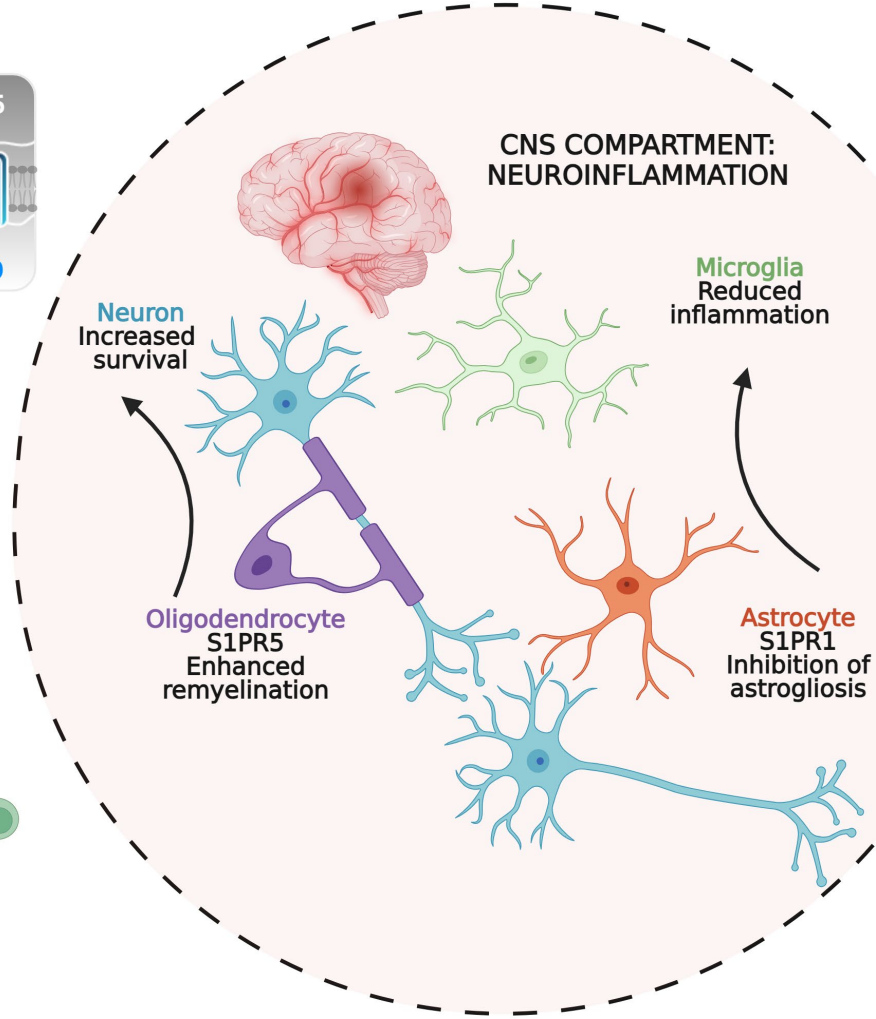
S1PR1 Modulation Selectively Reduces Migration of Lymphocytes From Lymph Nodes

Treatment with S1P Receptor Modulator

- Functionally antagonizes S1PR1 by inducing receptor internalization and degradation, disrupting normal lymphocyte subset egress
- Decreases release of inflammatory cytokines and reduce organ/tissue damage
- Maintains immune surveillance
- Functional antagonism of S1PR1 receptor in astrocytes expected to attenuate neuroinflammation

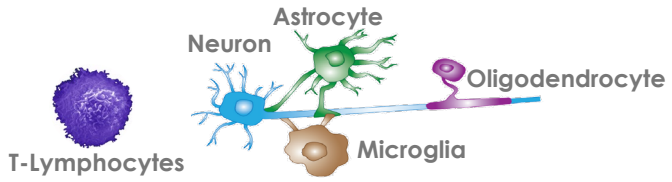






LP659 Selectivity & Potential in Neurodegenerative Disease Therapy

LP659	S1P1	S1P5	S1P4	S1P2	S1P3
β-Arrestin EC_{50}	0.64 nM	12.2 nM	121 nM	NR	NR
E_{max}	116%	66%	32%		



Reduces Immune Cell Migration, Differentiation & Proliferation

Decreased Inflammation & Enhanced Neuro-protection in Neurodegenerative Disorders

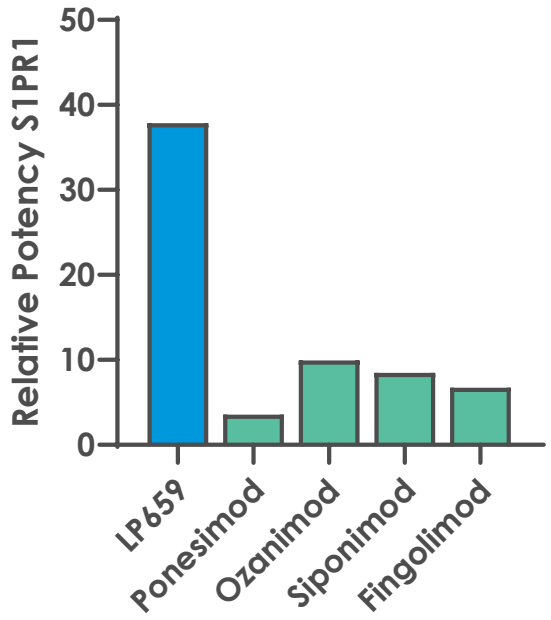
Believed not to be relevant in CNS

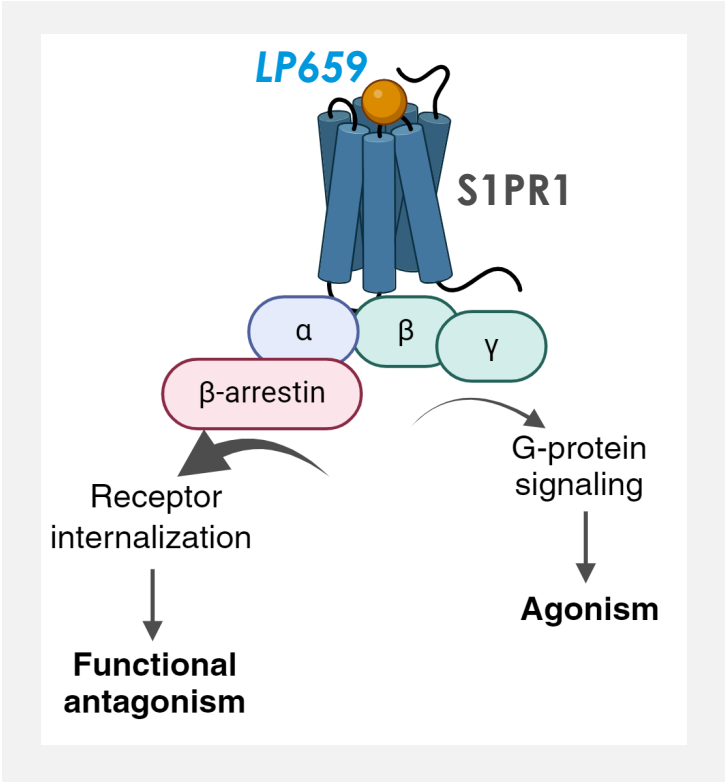
Increased Vasoconstriction, Fibrosis & Proliferation, decreased BBB integrity

Associated with **potential safety liabilities**

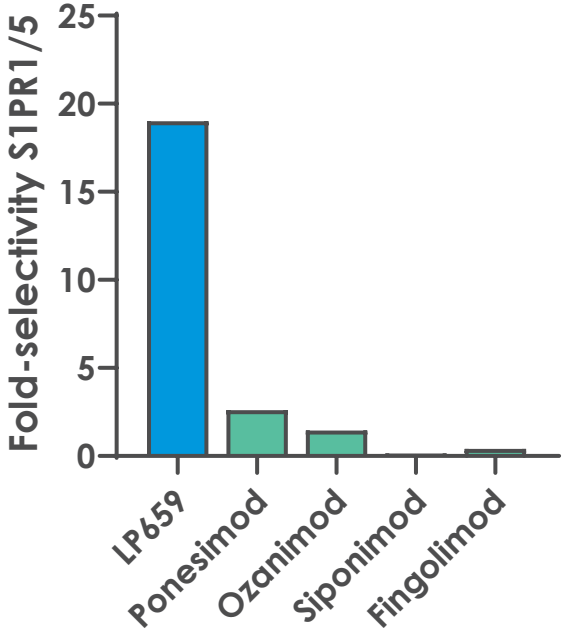
LP659 Designed to be a Next Generation Centrally-Acting S1PR1 Agonist with Greater Selectivity and Internalization-Biased Signaling

Most potent at S1PR1 internalization





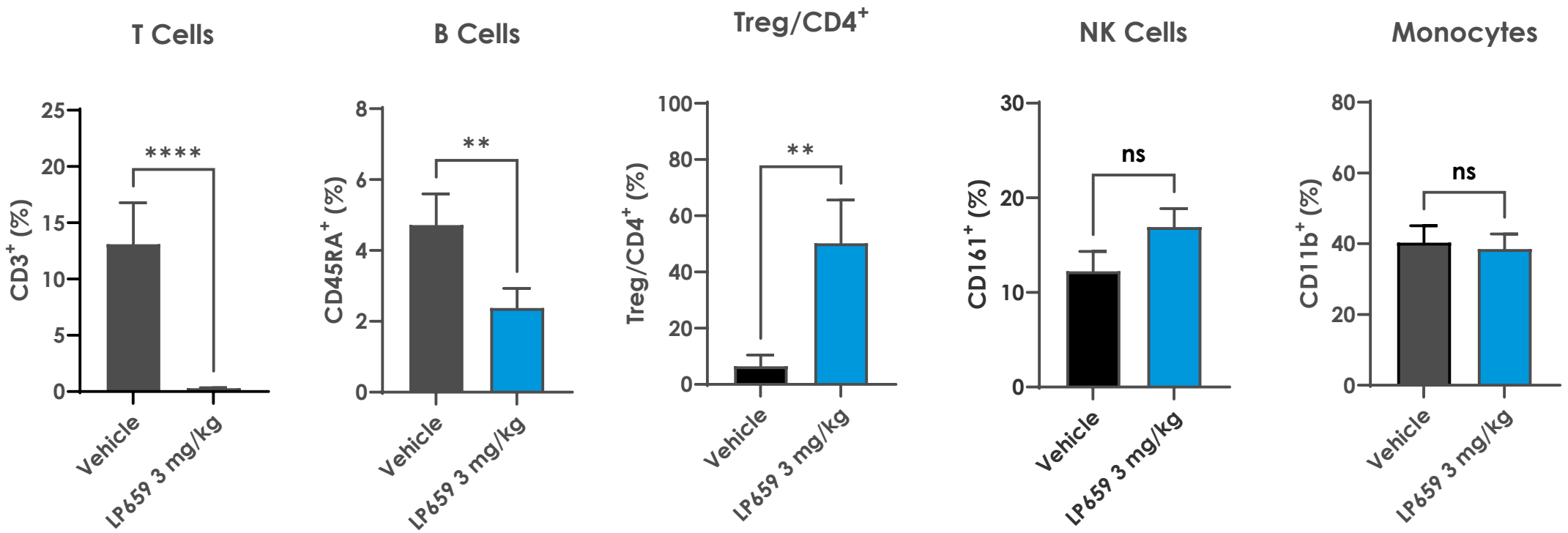
Greatest selectivity towards S1PR1 over S1PR5



LP659 selectivity may limit off-target effects associated with currently approved S1P receptor modulators focused in CNS

LP659 Reduced Circulating T and B Cells While Maintaining Immunosurveillance

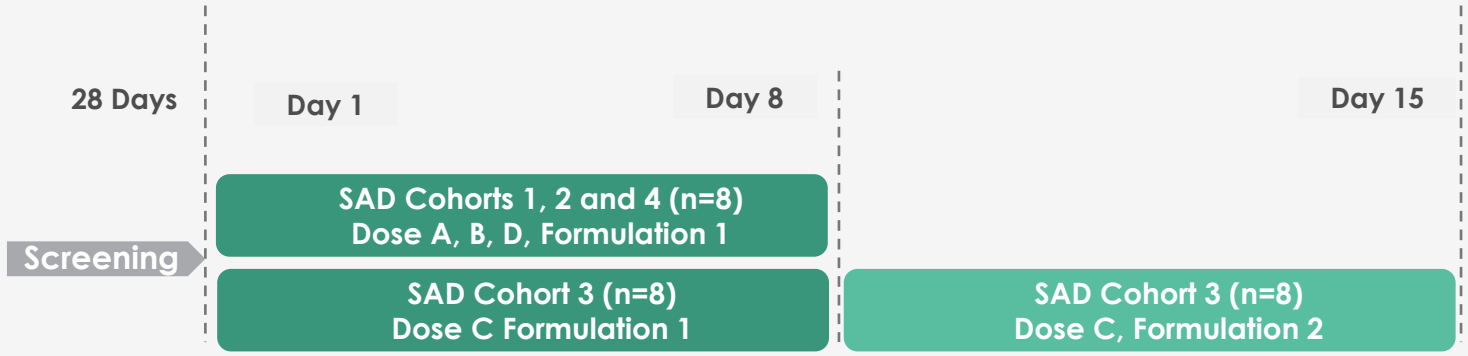
- LP659 potency in vivo parallels T and B cell lowering potential
- Proportion of Tregs over total CD4$^+$ cells is significantly increased by LP659
- No significant effects on NK and monocyte frequencies



LP659

LP659 Phase 1 SAD Topline Data

LP659-101: A Phase 1 SAD Study in Adult Healthy Volunteers



Cohorts 1, 2, & 4 Only:

- Study drug administration of Formulation 1 occurred in the morning on Day 1 after an overnight fast
- Discharge Day 8

Cohort 3 Only:

- Study drug administration of Formulation 1 occurred in the morning on Day 1 after an overnight fast
- 1-week washout
- On Day 8, participants received a single dose of Formulation 2 after an overnight fast
- Discharge Day 15

A Phase 1, First-In-Human, Randomized, Double Blind, Placebo Controlled, Single Ascending Dose Study To Assess The Safety, Tolerability, Pharmacokinetics and Pharmacodynamics of LP659 In Healthy Volunteers

Key Study Objectives:

- To assess the safety and tolerability of single ascending doses of LP659 Formulation 1 and 2
- To determine the PK profile of LP659, and its metabolite(s), in single ascending doses
- To determine PD profile of LP659, in single ascending doses of LP659

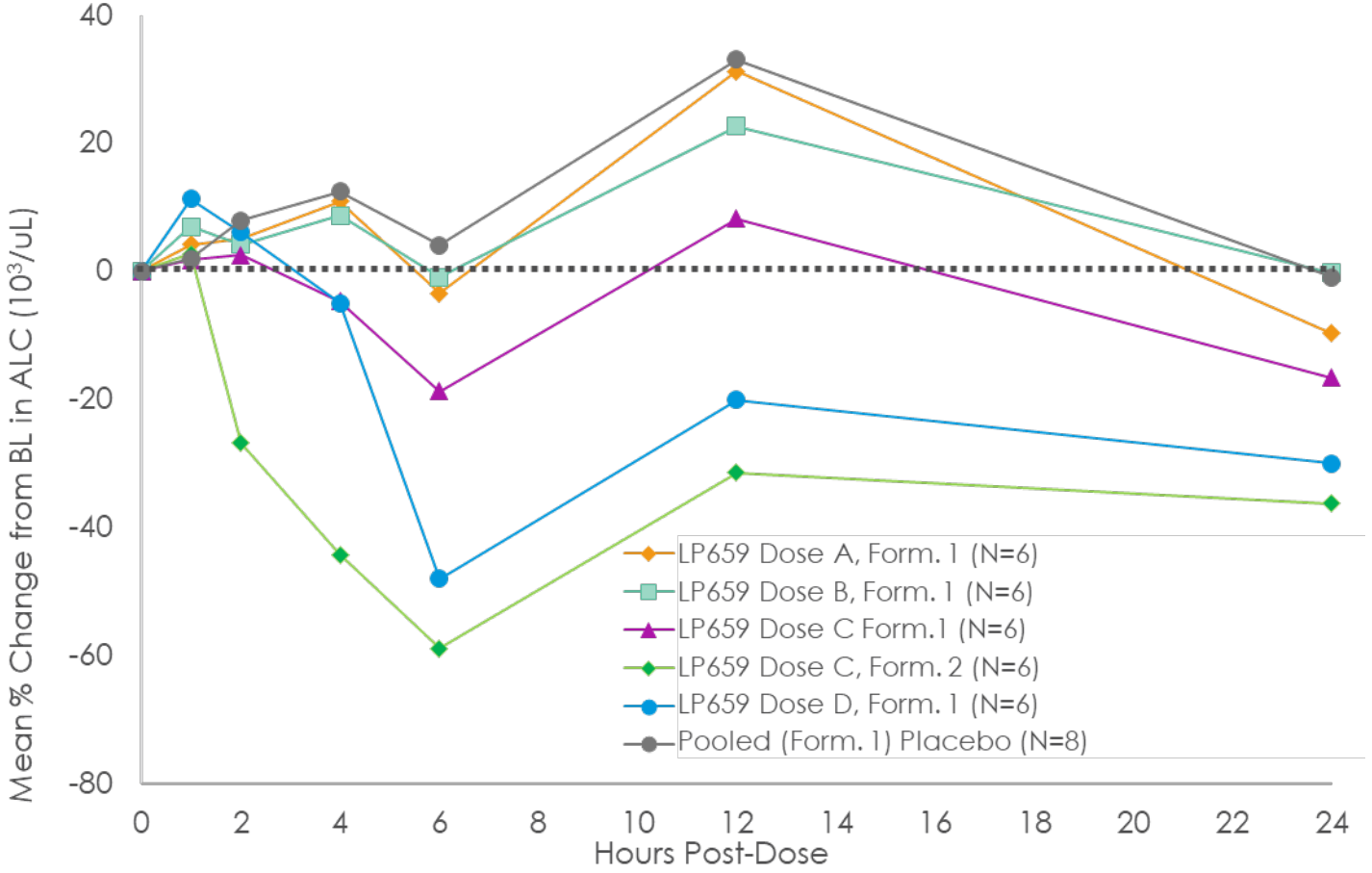
Phase 1 Safety Results

LP659 was generally safe and well tolerated ►

- Adverse events were mild
- No TEAEs leading to discontinuation
- No SAEs observed
- Impact on HR was low throughout the study with no first dose bradycardia
- No abnormal ECGs (no AV block) or abnormal echocardiograms
- No abnormal pulmonary/spirometry and ophthalmologic assessments
- No infections

Abbreviations: TEAEs = Treatment-Emergent Adverse Events; SAEs = serious adverse events, HR = Heart Rate, ECG = electrocardiogram, AV = atrioventricular

Mean Percent Change from Baseline in Absolute Lymphocyte Count 1–24 Hours Post-Dose



The mean percent change from baseline in ALC at Hour 6 post-dose:	
LP659 Dose A (Formulation 1)	-3.5%
LP659 Dose B (Formulation 1)	-0.9%
LP659 Dose C (Formulation 1)	-18.8%
LP659 Dose C (Formulation 2)	-58.9%
LP659 Dose D (Formulation 1)	-48.0%
Pooled placebo cohorts (Formulation 1)	+4.1%

LP659 demonstrated a rapid dose and formulation-dependent effect on reducing ALC, with higher doses / formulations showing greater reductions

Abbreviations: ALC = Absolute Lymphocyte Count; BL = Baseline

New Opportunities in Immune & Inflammatory Conditions

RATIONALE FOR S1P1/5 RECEPTOR MODULATOR USE

Autoimmune

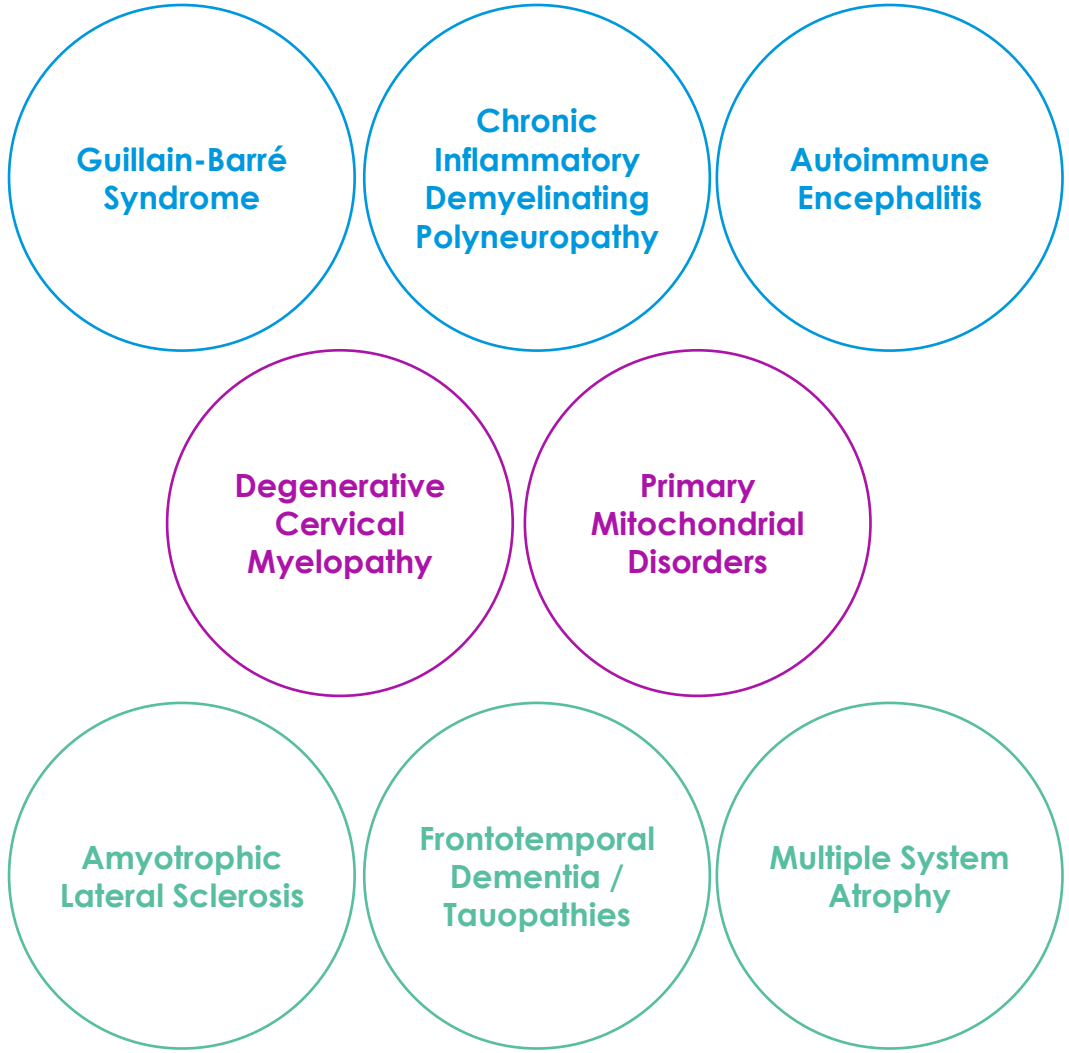
- S1PR1 is a clinically validated target for treating multiple autoimmune conditions including MS & IBD
- T cell-mediated autoimmunity is known to contribute to the selected autoimmune indications

Neuroinflammatory

- Reactive astrocytes and activated microglial cells promote neuronal dysfunction and cell loss
- Neuroinflammation is normalized by S1P receptor functional antagonism

Proteinopathies

- Pathology in the selected indications is promoted by both neuroinflammatory & T cell-mediated mechanisms, both of which are targeted by LP659
- S1PRMs target both neuroinflammation and T Cell mediated autoimmunity



Completed and ongoing translational studies highlight a broad range of orphan neurological indications

Definitions: MS = Multiple Sclerosis, IBD = Irritable Bowel Disease

Financial Summary & Milestones

Cash, Cash Equivalents & Investments

$304.9 million

As of June 30, 2024

Shares Outstanding

38.9 million

As of July 30, 2024

Second Quarter 2024 Operating Expenses

$25.6 million

- R&D - $20.4 million
- G&A - $5.2 million

As of June 30, 2024

	Key Milestones	Anticipated Timing
Bexicaserin (LP352)	PACIFIC Ph 1b/2a Topline Data	✓ Q1 2024
	PACIFIC Open-Label Extension Data	✓ Q2 2024
	End of Phase 2 Meeting	✓ Q2 2024
	Breakthrough Therapy Designation	✓ Q2 2024
	Global Ph 3 Program Initiation	YE 2024
LP659	Ph 1 Initiation	✓ Q4 2023
	Ph 1 SAD Completion	✓ Q2 2024
	Ph 1 MAD Initiation*	Q1 2025

*Subject to regulatory discussions

Thank you

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