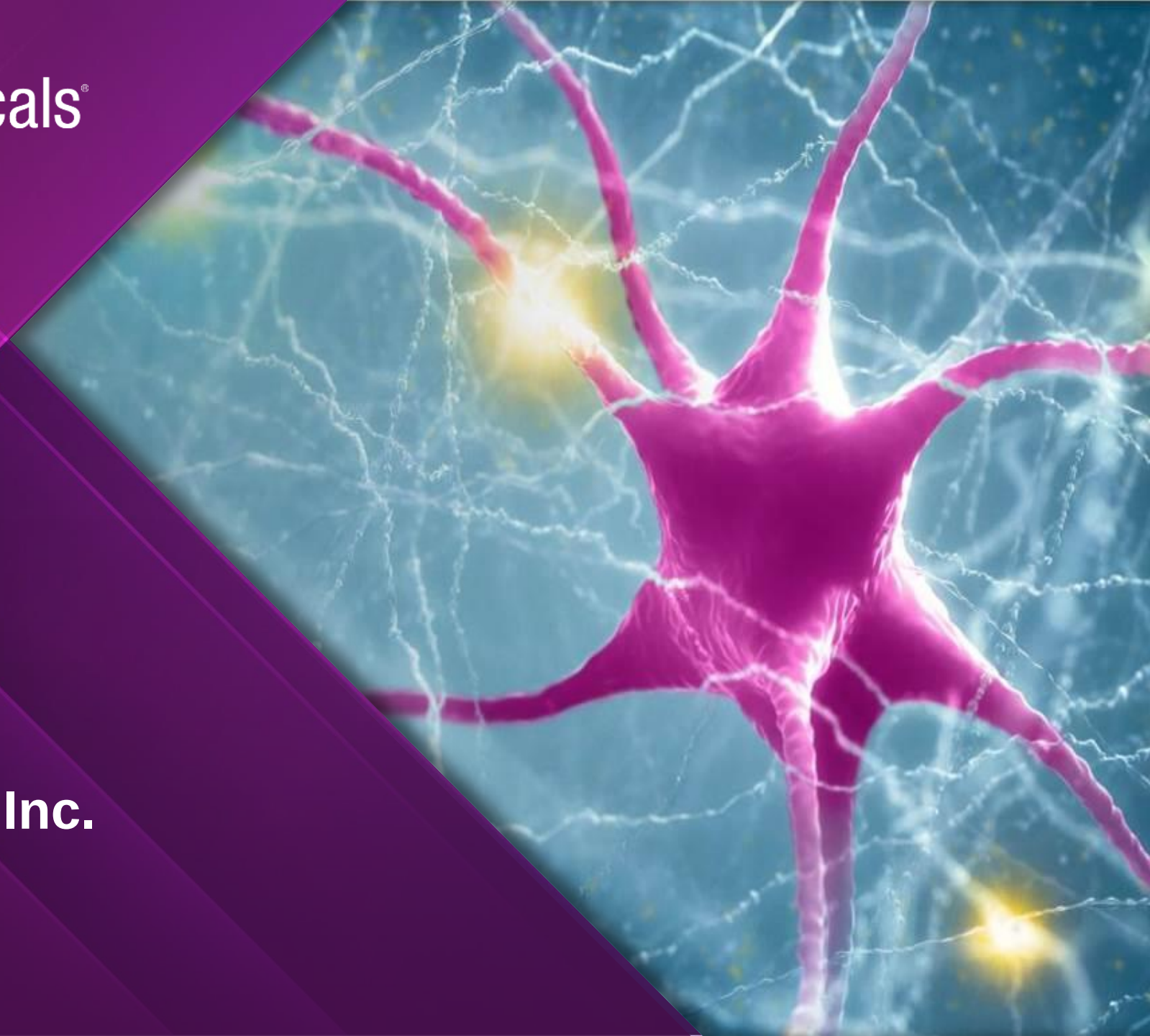
Jazz Pharmaceuticals®



Investor Update

Acquisition of Cavion, Inc.

August 12, 2019

Forward-Looking Statements

"Safe Harbor" Statement Under the Private Securities Litigation Reform Act of 1995

This presentation contains forward-looking statements, including, but not limited to, statements related to the potential benefits to Jazz Pharmaceuticals plc from the acquisition of Cavion, Inc. and its lead asset, CX-8998; CX-8998 as a potential treatment for essential tremor and other potential indications; Jazz Pharmaceuticals' plans for future development of CX-8998, including the initiation of a Phase 2 clinical study in 2020; Jazz Pharmaceuticals' plans to generate additional intellectual property relating to CX-8998; potential future payments by Jazz Pharmaceuticals to the former Cavion shareholders; and other statements that are not historical facts. These forward-looking statements are based on Jazz Pharmaceuticals' current plans, objectives, estimates, expectations and intentions and inherently involve significant risks and uncertainties. Actual results and the timing of events could differ materially from those anticipated in such forward-looking statements as a result of these risks and uncertainties, which include, without limitation, risks and uncertainties associated with: Jazz Pharmaceuticals' ability to achieve the expected benefits from the acquisition of Cavion and its lead asset, CX-8998; pharmaceutical product development and the uncertainty of clinical success, including risks related to failure or delays in initiating or completing clinical trials; the regulatory approval process; and effectively commercializing any product candidates; and other risks and uncertainties affecting Jazz Pharmaceuticals, including those described from time to time under the caption "Risk Factors" and elsewhere in Jazz Pharmaceuticals plc's Securities and Exchange Commission filings and reports (Commission File No. 001-33500), including the company's Quarterly Report on Form 10-Q for the quarter ended June 30, 2019 and future filings and reports by the company. Other risks and uncertainties of which Jazz Pharmaceuticals is not currently aware may also affect the company's forward-looking statements and may cause actual results and the timing of events to differ materially from those anticipated. The forward-looking statements herein are made only as of the date hereof or as of the dates indicated in the forward-looking statements, even if they are subsequently made available by Jazz Pharmaceuticals on its website or otherwise. Jazz Pharmaceuticals undertakes no obligation to update or supplement any forward-looking statements to reflect actual results, new information, future events, changes in its expectations or other circumstances that exist after the date as of which the forward-looking statements were made.

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Agenda

Bruce Cozadd Chief Executive Officer	Background
Matt Young Executive Vice President and Chief Financial Officer	Strategic & Financial Overviews
Dan Swisher President and Chief Operating Officer	Market Overview
Rob Iannone, MD, MSCE Executive Vice President, Research and Development	R&D Overview

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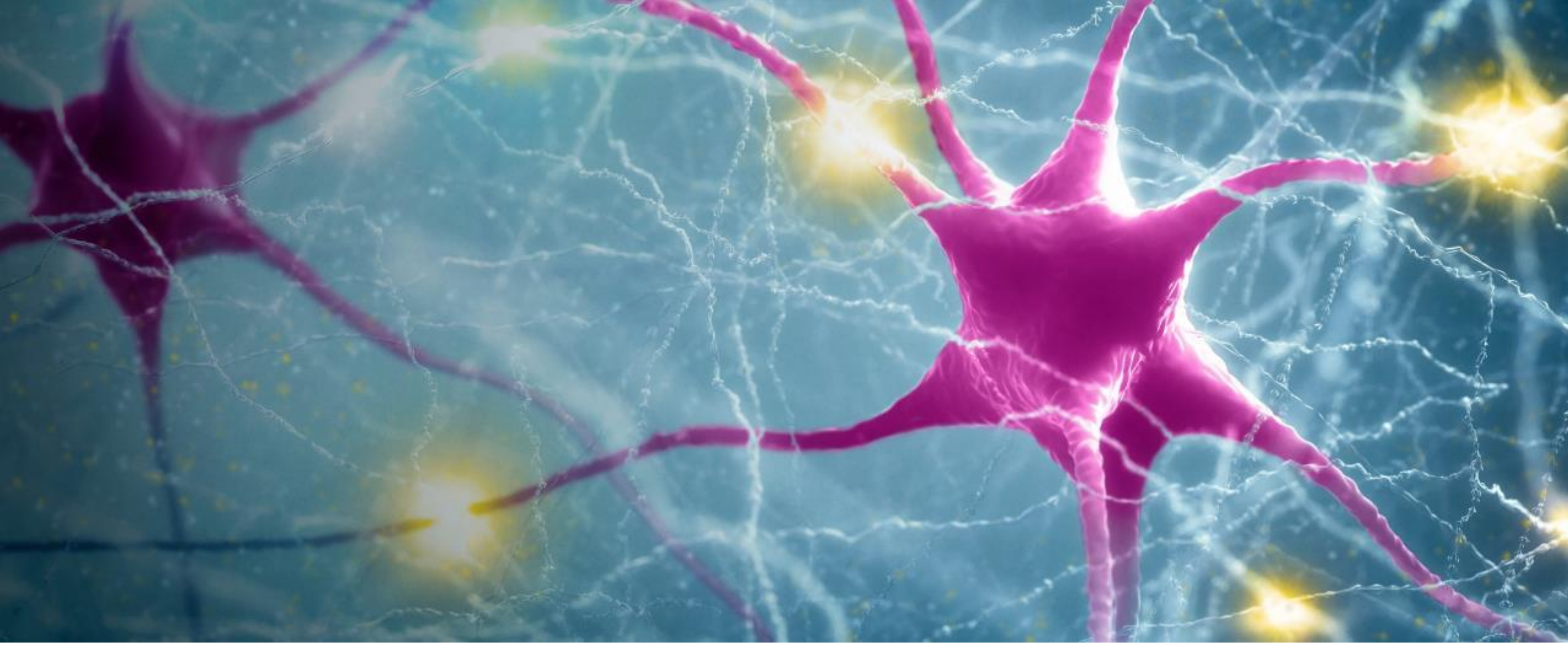


Background

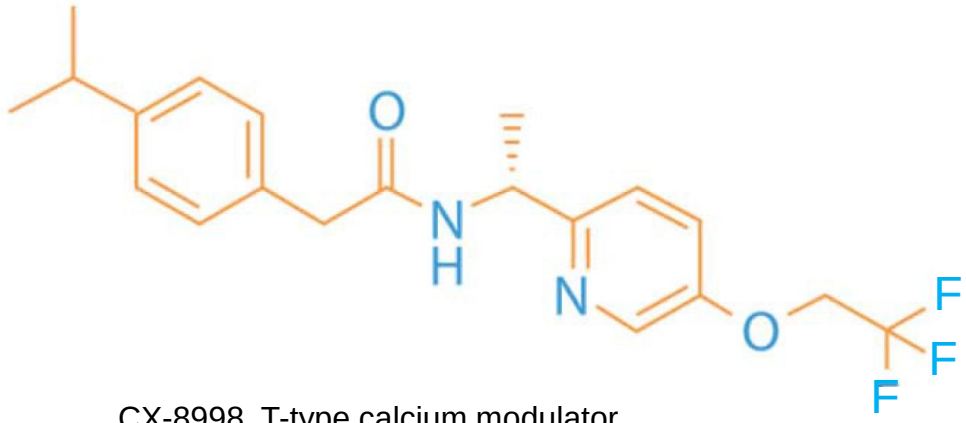
Bruce Cozadd

Chief Executive Officer

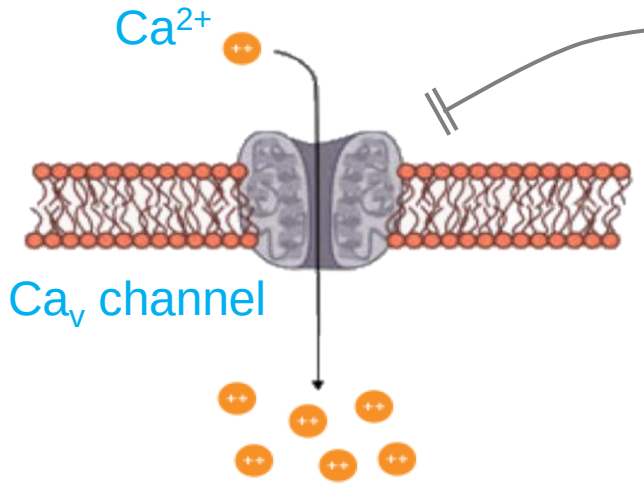
Cavion, Inc. Background

Clinical-stage biotechnology company

Focus on therapies modulating the T-type calcium channel for the treatment of chronic and rare neurological diseases



CX-8998, T-type calcium modulator



- Cav3 channels are preferentially expressed in CNS and PNS
  - activate upon small membrane depolarizations allowing a surge of calcium entry into excitable cells initiating the action potential and modulating neuronal firing
  - In pathological states, Cav3 is either upregulated or found to have increased activity, making it a selective target for specific neurological diseases, such as tremor

Source: Papapetropoulos S, et al. CX-8998: A Novel, State-dependent Cav3 Channel Antagonist in Phase 2 Development for Tremor and Epilepsy. Presented at the American Society for Experimental Neurotherapeutics, March 7-10, 2018, Rockville, MD.

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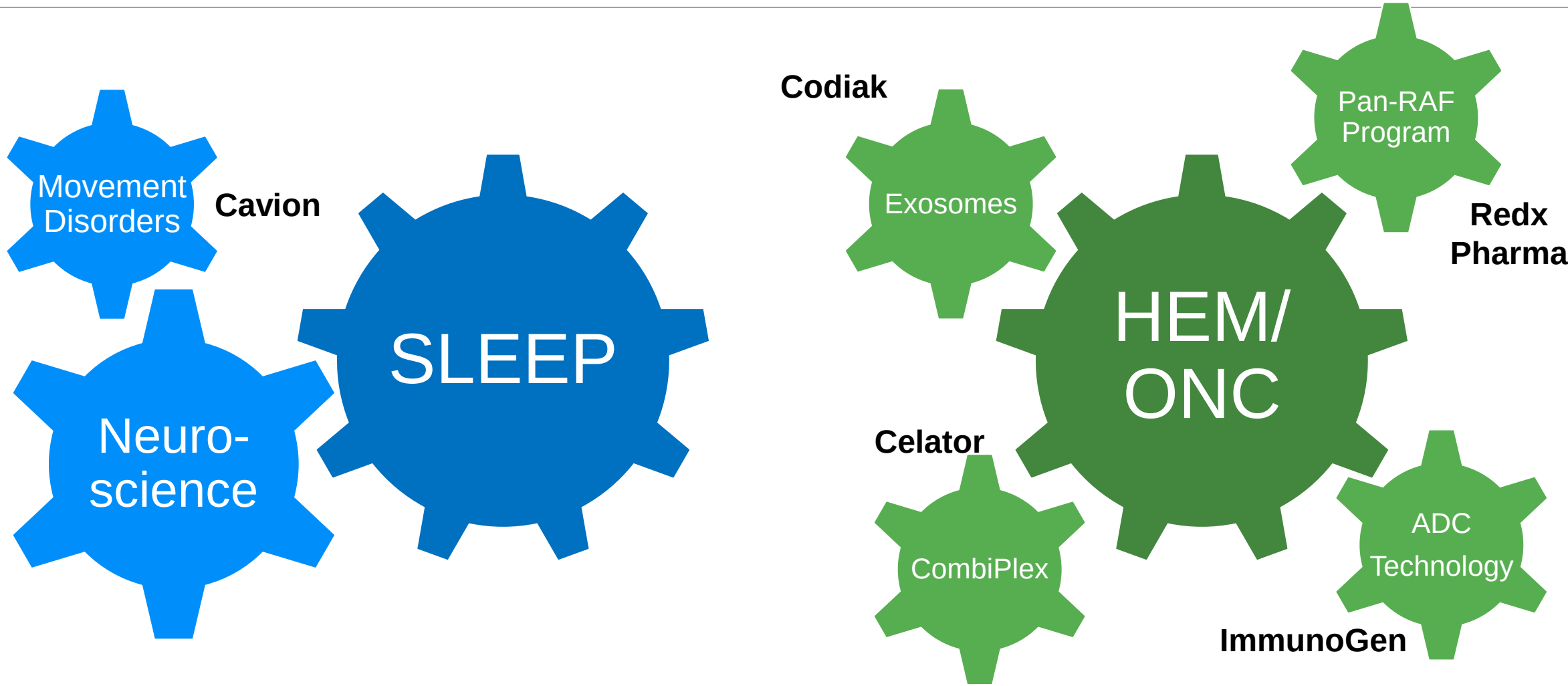
Building Out Our Therapeutic Areas Through Strategic Transactions



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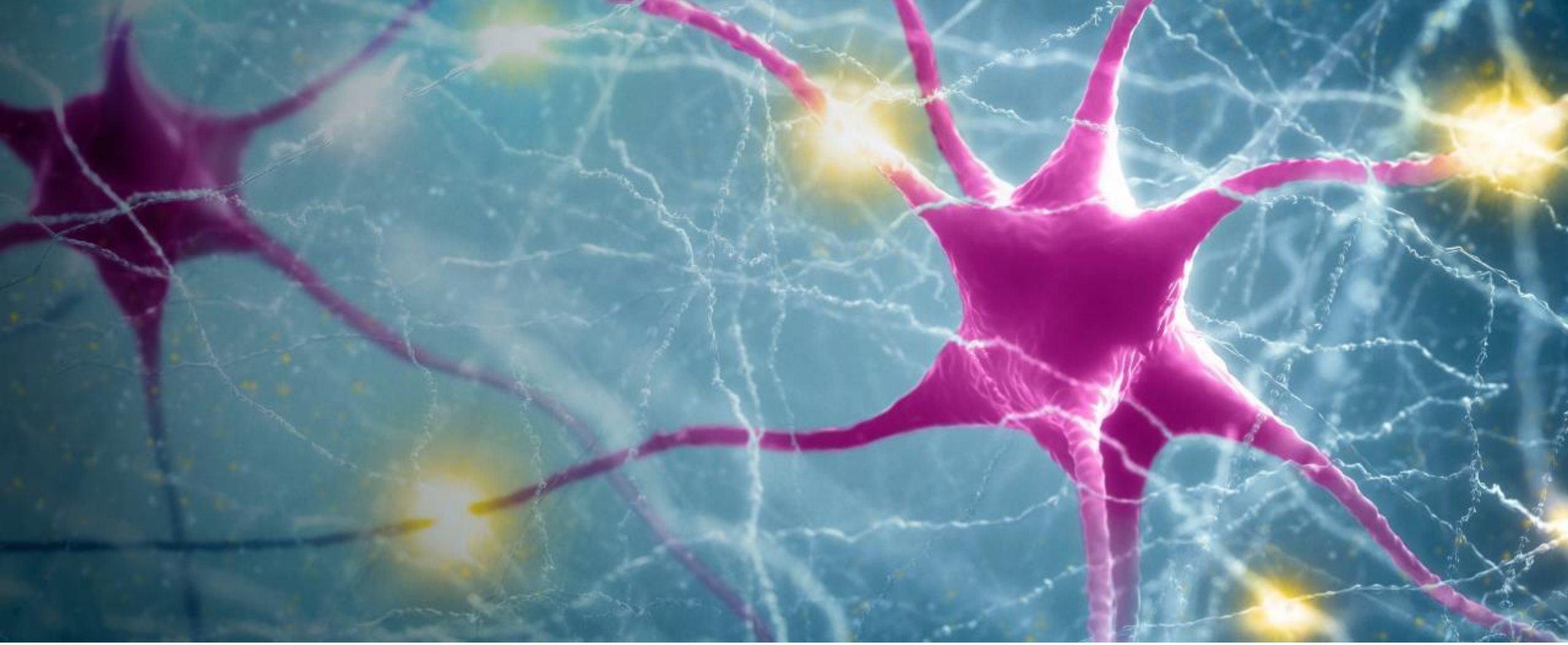

Strategic & Financial Overviews

Matt Young
Executive Vice President and Chief Financial Officer

Strategic Rationale

CX-8998	• Small molecule modulator of T-type calcium channels for essential tremor (ET) • Cavion completed Phase 2 randomized, placebo-controlled clinical study that demonstrated proof-of-concept; results presented most recently at AAN 2019 • Broad non-clinical work to begin in 2019 • Expect to initiate a Phase 2 clinical study in 2020
Strategic Fit	• Opportunity to broaden our sleep medicine and neuroscience pipeline with an expansion into movement disorders • With worldwide rights, this molecule strengthens our global product portfolio
Significant Unmet Medical Need	• Limited treatment options with high patient dissatisfaction • Current research and development landscape for ET is limited • Large and growing addressable ET population with total prevalence in U.S. and EU5 of ~11 million
Targeted Physician Audience	• Approximately 9,000 physicians, in the highest decile of treaters, in the U.S. manage ET patients – 4,500 are neurologists, including approximately 1,000 movement disorder specialists
Other Potential Indications	• May have applicability in other neurological conditions
Exclusivity	• CX-8998 composition of matter patent extends to mid-2032 with PTE • Method of use/formulation patent application pending which could extend to 2039, if issued • Plan to generate additional intellectual property

Financial Overview

Transaction / Financial Terms

- Jazz acquired Cavion, Inc. for an upfront payment of $52.5 million to Cavion shareholders
- Cavion became a wholly-owned subsidiary of Jazz Pharmaceuticals, Inc.
- Potential total consideration of $312.5 million − contingent on achievement of certain clinical, regulatory and commercial sales milestones:
  - Clinical milestones, up to $30 million
  - Regulatory milestones, up to $45 million
  - Based on pre-specified commercial sales, tiered milestones up to $185 million
- Sales-based tiered royalties to Merck & Co. in range of low-single digits to 10% (Cavion in-licensed CX-8998 from Merck & Co.)

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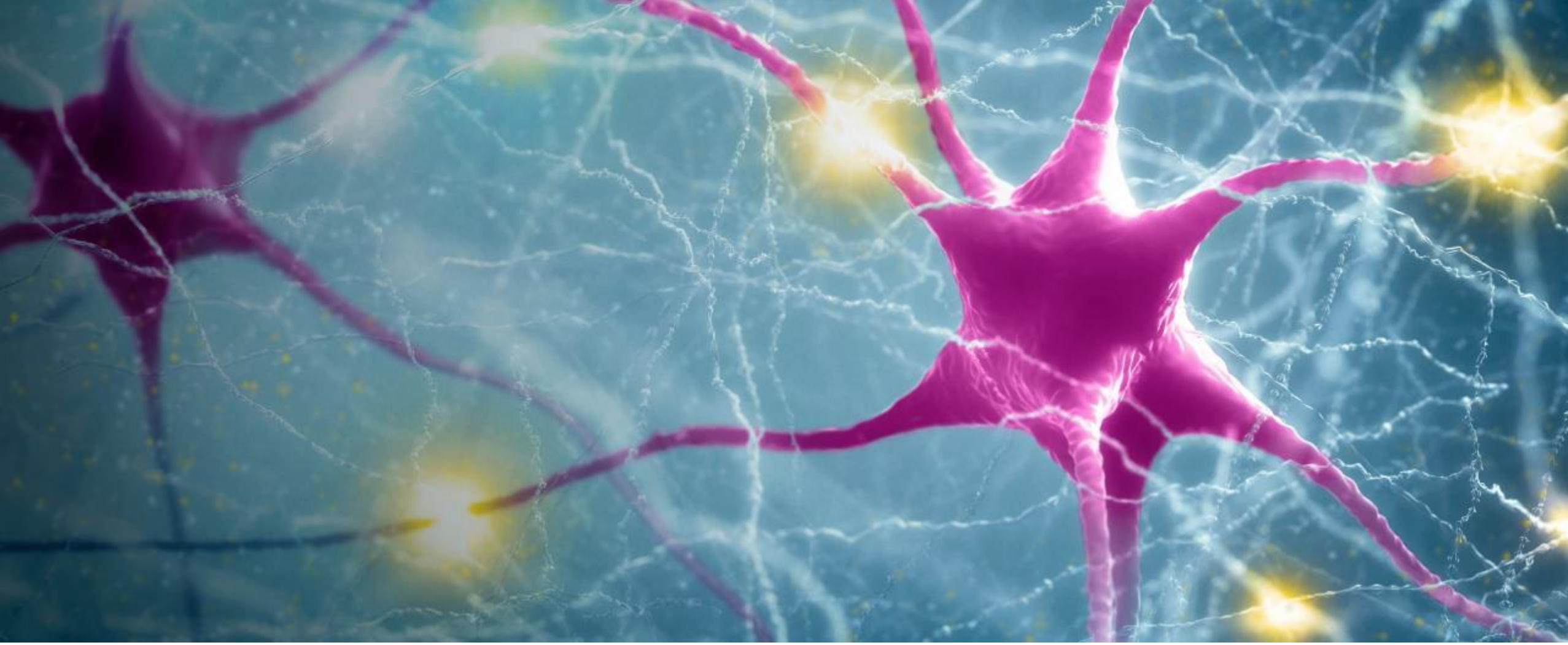

Market Overview

Dan Swisher
President and Chief Operating Officer

Essential Tremor: Limited Treatment Options

Significant Disability Affecting Activities of Daily Living

Disease

- ET is the most common movement disorder
- ET is characterized by involuntary motion, which progressively worsens with age
- ET primarily involves upper limbs and/or head, and is evident during action and positioning the limbs
- ET ranges from mild to fully debilitating, with significant effects on quality of life and daily activities, such as eating and drinking, dressing, writing and typing
- ET can lead to social embarrassment, anxiety, and depression

Limited Treatment Options

- Patients with mild symptoms – monitoring / no pharmacotherapy generally
- Tolerability issues and lack of efficacy with currently available pharmacotherapy
  - Propranolol is only FDA-approved therapy for ET; 1L treatment is typically propranolol (beta-blocker) or primidone (anticonvulsant) mono or combination therapy
  - 2L treatments include gabapentin or topiramate
- Non-pharmaceutical therapy includes deep brain stimulation surgery, MRI guided ultrasound and Botox® for head / larynx tremors

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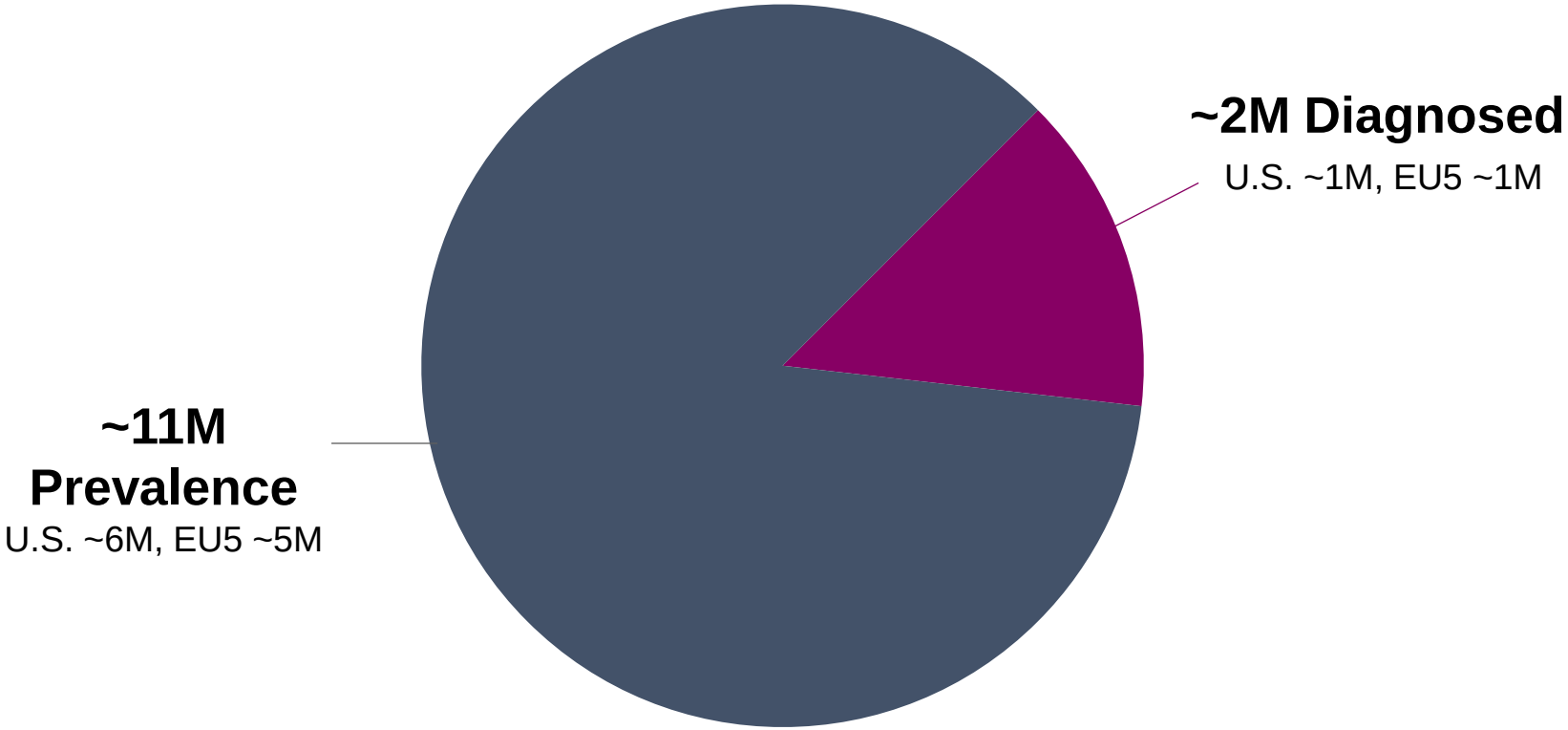
Essential Tremor Market

Diagnosis and Treatment Rates are Relatively Low

U.S. & EU5 Essential Tremor Prevalence (Millions)



- ET is the most common movement disorder, ranging from mild to fully debilitating for patients
- Incidence of ET increases and progressively worsens with age
- In the U.S. and EU5:
  - ~ 11 million prevalence
  - ~ 2 million diagnosed
  - ~ 500K drug-treated

United Nations Population data; Louis et al., Tremor and Other Hyperkinetic Movements, 2014; Symphony Healthcare claims data for Years 2016-2-18 (Feb. – Marc. 2019) & IQVIA Analytics Link (ET disease and sales analysis 2018); SHA claims data for Years 2016-2018 (Feb.-Mar. 2019) & IQVIA Analytics Link (ET disease and sales analysis 2018),

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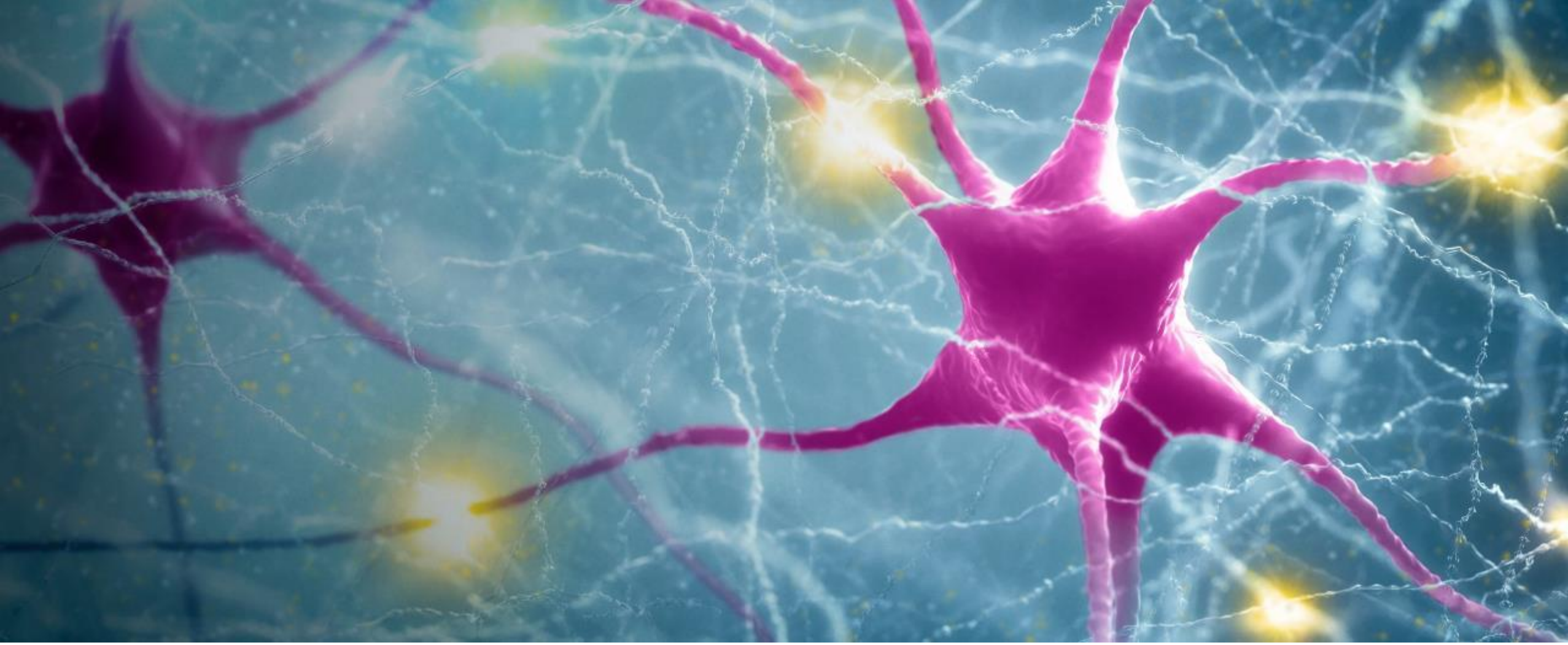
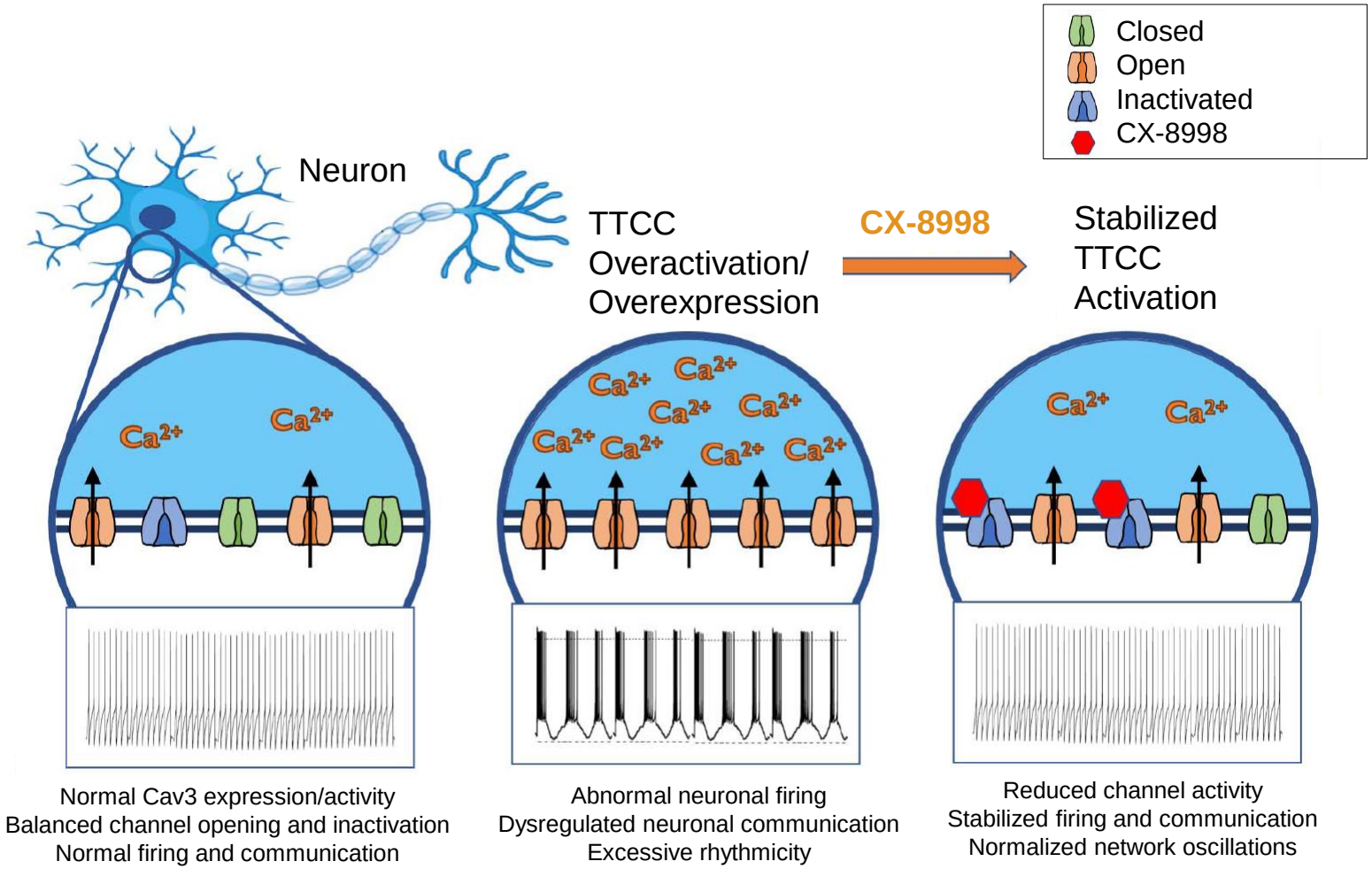


MOA & Clinical Data Overview

Rob Iannone, MD, MSCE
Executive Vice President, Research and Development

CX-8998 Mechanism of Action

T-Type Calcium Channel Modulation Restores Normal Neuronal Rhythms



- Many neurologic disorders including ET are characterized by abnormal or dysrhythmic activity in certain regions of the brain, which is mediated by T-type calcium channels
- T-type calcium channel modulators have promising activity in multiple pre-clinical models and clinical studies of dysrhythmic neurological disorders

Source: Papapetropoulos S, et al. Efficacy Results from a Phase 2, Double-Blind, Placebo-Controlled Study of CX-8998 a State-Dependent T-Type Calcium (Cav3) Channel Modulator in Essential Tremor Patients (T-CALM). Platform presentation at the American Academy of Neurology 71st Annual Meeting, May 4 to May 10, 2019 in Philadelphia, PA.

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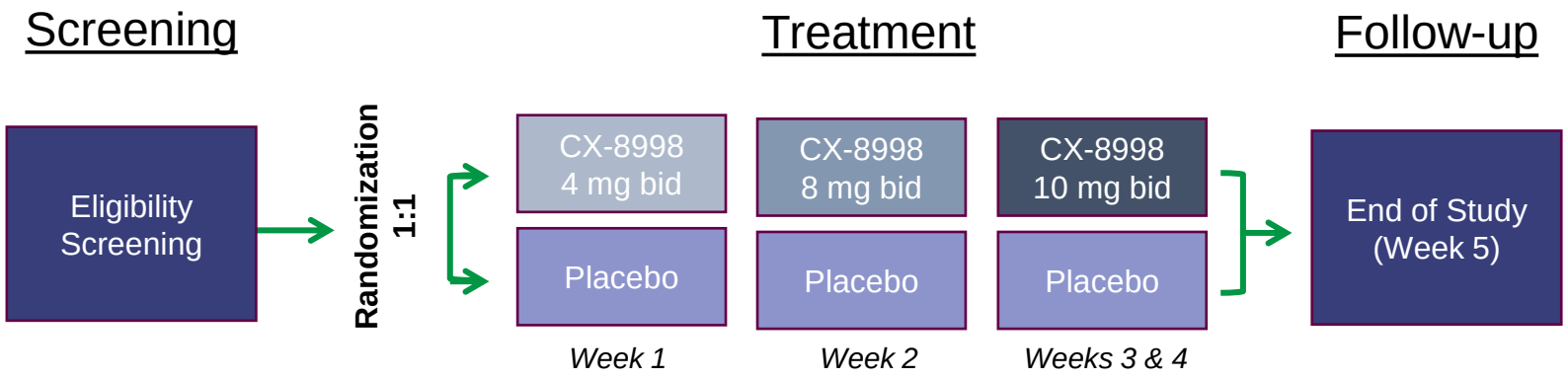
Cavion Phase 2 Proof-of-Concept Study for CX-8998 in ET (T-CALM)

- Phase 2 randomized, 28-day, double-blind, placebo-controlled study for essential tremor
- 95 adult patients with essential tremor randomized across 25 U.S. sites
- Primary endpoint: change from baseline to Day 28 on the TETRAS-PS assessed by a centralized video rater
- Secondary and other endpoints: TETRAS-ADL, TETRAS Total, CGI-I, PGIC, GAS and spirography



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The ET Rating Assessment Scales (TETRAS)

Performance Subscale (PS)

- Clinician-rated quantification of tremor severity in the head, face, voice, limbs and trunk
- Each item is rated on a 0 to 4 scale (sum 0-64)
- Specific amplitude ranges (centimeters) define the tremor rating

Activities of Daily Living (ADL)

- Patient reported assessment of activities including eating, drinking, dressing and personal hygiene, carrying items and fine motor skills
- Each item is rated on a 0 to 4 scale, with 0 representing normal activity and 4 representing severe abnormality (sum 0-48)

- The higher the score the worse the tremor – a decrease in score represents an improvement in tremor
- TETRAS TOTAL score (sum of PS and ADL) combines both patient reported outcome and objective measurement of tremor amplitude in a single score

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CX-8998 Phase 2 Proof-of-Concept Study Endpoints

Primary Endpoint Did Not Meet Significance
Efficacy Observed in Multiple Key Secondary/Other Endpoints

Endpoint		Rater	P-value	SD	Treatment Difference vs Placebo
Primary	Tremor Amplitude/Severity (TETRAS-PS)	Central Video	0.696	4.36	0.5
Secondary	Impact on Activities of Daily Living (TETRAS-ADL)	Patient	0.049*	6.71	-2.9
	Kinesia ONE Score	Digital	0.421	3.35	0.0
Other	Tremor Amplitude/Severity (TETRAS-PS)[1]	Investigator	0.017	4.16	-2.0
	TETRAS-TOTAL	Investigator/ Patient	0.029*	9.11	-4.8
	Clinician Global Impression of Improvement (CGI-I)	Investigator	0.001	0.8	0.6
	Patient Global Impression of Change (PGIC)	Patient	0.089*	1.3	0.4
	Personal Goal Attainment (GAS)	Patient	0.034	11.08	4.8
	Spirography (pen & paper; TETRAS-PS sub-item)[2]	Investigator	0.003	0.847	-0.54

[1] Post-hoc analysis with primary endpoint analysis methodology
[2] Post-hoc analysis by t-test
* Significant vs. placebo at Day 15

Significant Difference Achieved

Source: Papapetropoulos S, et al. Efficacy Results from a Phase 2, Double-Blind, Placebo-Controlled Study of CX-8998 a State-Dependent T-Type Calcium (Cav3) Channel Modulator in Essential Tremor Patients (T-CALM). Platform presentation at the American Academy of Neurology 71st Annual Meeting, May 4 to May 10, 2019 in Philadelphia, PA.

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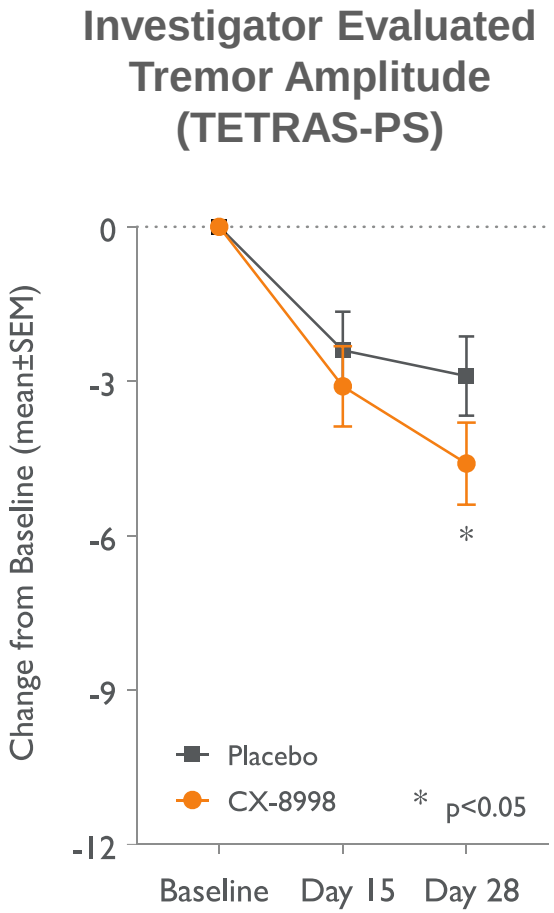
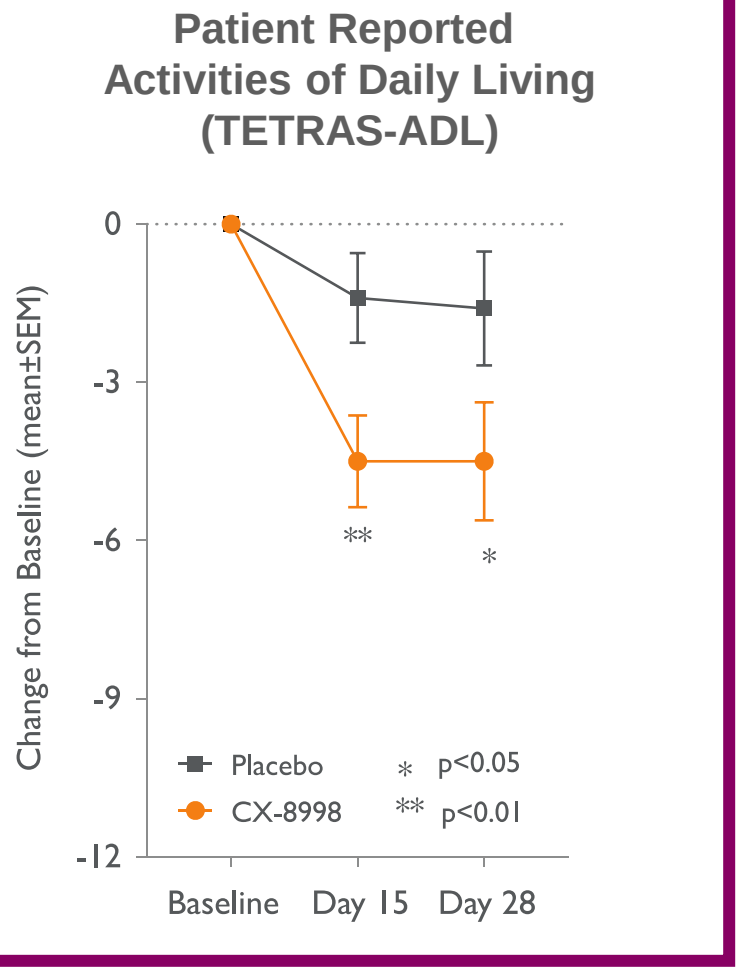
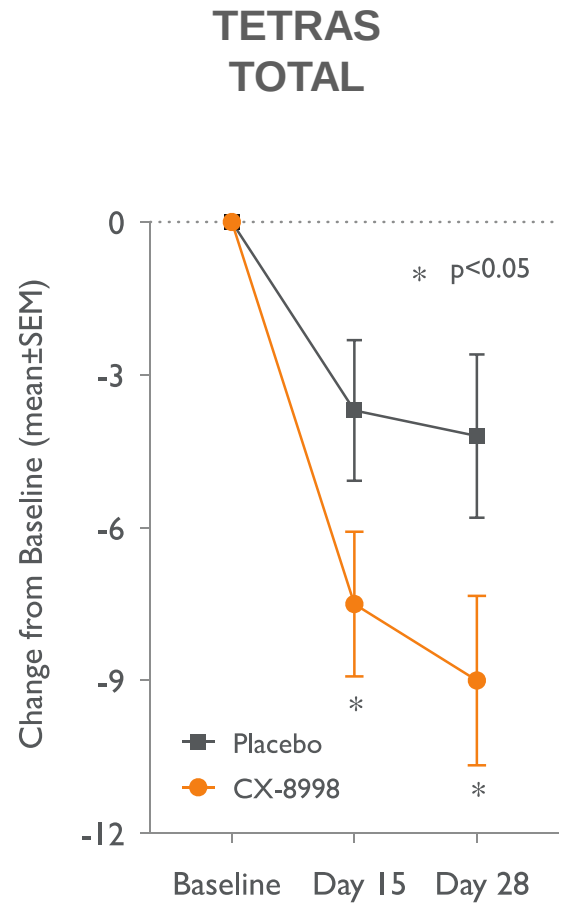
TETRAS-ADL and Investigator TETRAS-PS Ratings Show Significant Improvement







Source: Papapetropoulos S, et al. Efficacy Results from a Phase 2, Double-Blind, Placebo-Controlled Study of CX-8998 a State-Dependent T-Type Calcium (Cav3) Channel Modulator in Essential Tremor Patients (T-CALM). Platform presentation at the American Academy of Neurology 71st Annual Meeting, May 4 to May 10, 2019 in Philadelphia, PA.

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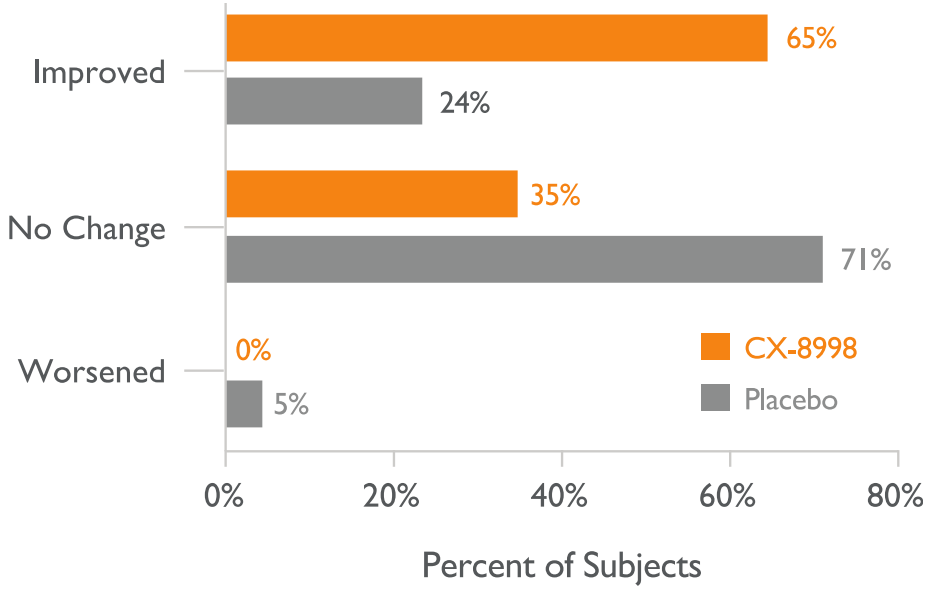
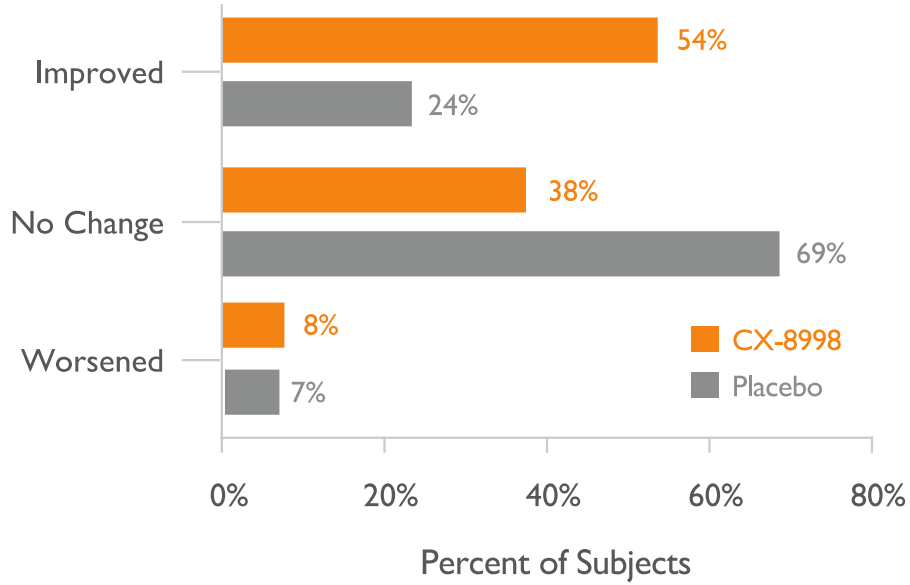
Clinical and Patient Global Impression Endpoints
Improvement Supports TETRAS Efficacy Results

Clinical Global Impression of Improvement (CGI-I) Day 28



"Compared to your subject's condition at the beginning of treatment, how much has your subject changed?"

Patient Global Impression of Change (PGIC) Day 28



"With respect to your essential tremor, how would you describe yourself now, as compared to when you started taking the study drug?"

Scores include very much improved, much improved, minimally improved, no change, minimally worse, much worse, very much worse

Source: Papapetropoulos S, et al. Efficacy Results from a Phase 2, Double-Blind, Placebo-Controlled Study of CX-8998 a State-Dependent T-Type Calcium (Cav3) Channel Modulator in Essential Tremor Patients (T-CALM). Platform presentation at the American Academy of Neurology 71st Annual Meeting, May 4 to May 10, 2019 in Philadelphia, PA.

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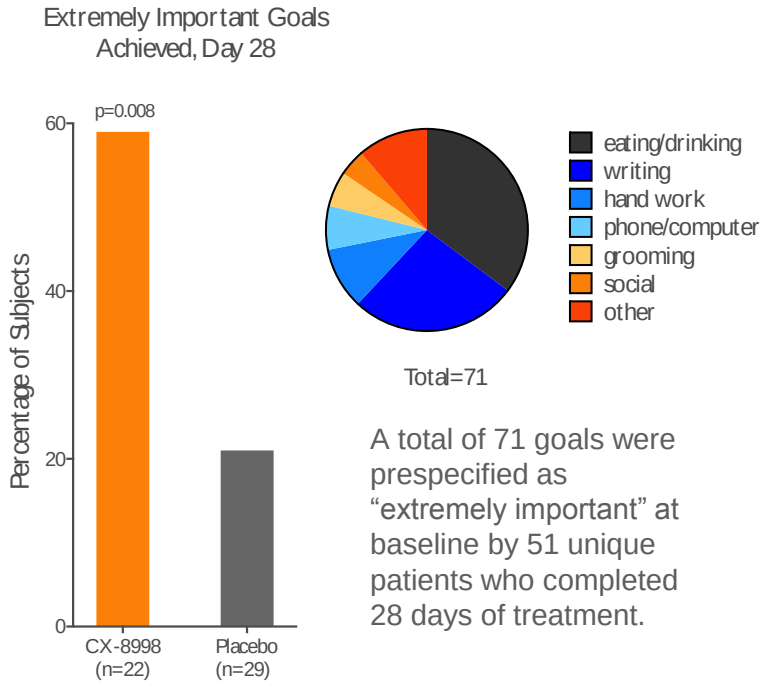
Improvement in Functional Goals and Spirography

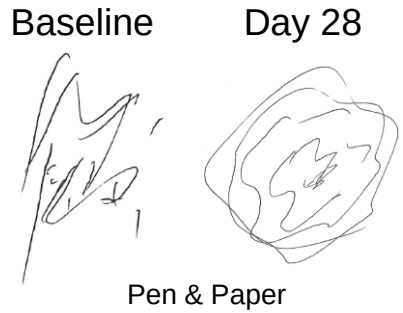
Goal Attainment Scale (GAS)



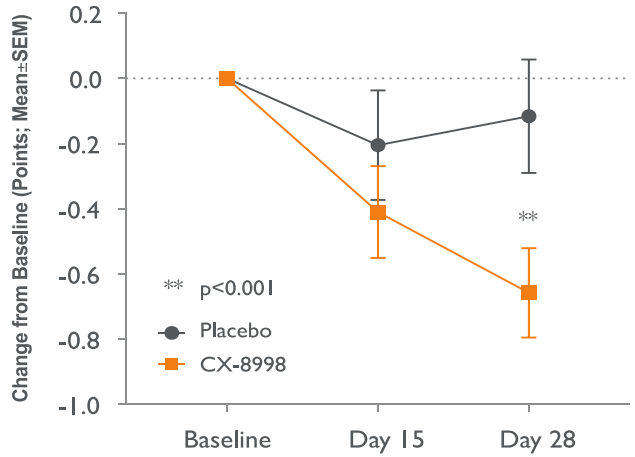
A total of 71 goals were prespecified as "extremely important" at baseline by 51 unique patients who completed 28 days of treatment.

- Evaluates progress towards patient-selected pre-set task goals (like dressing oneself) and measure whether they met, exceeded or fell short of each goal
- These tasks are ranked by relative importance

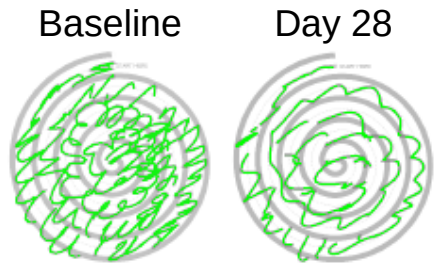
TETRAS-PS Spiral Task Investigator Rated



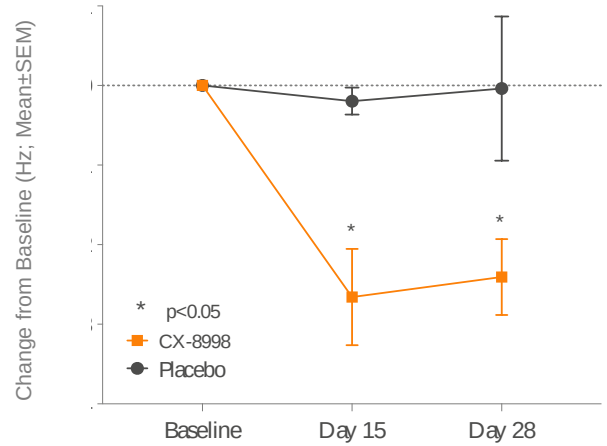
Pen & Paper



Functional Tremor Frequency (iMotor) Dominant Hand



Digital Biomarker - iMotor



Source: Papapetropoulos S, et al. Efficacy Results from a Phase 2, Double-Blind, Placebo-Controlled Study of CX-8998 a State-Dependent T-Type Calcium (Cav3) Channel Modulator in Essential Tremor Patients (T-CALM). Platform presentation at the American Academy of Neurology 71st Annual Meeting, May 4 to May 10, 2019 in Philadelphia, PA.
*All p values other than the primary endpoint are considered nominal **Full results from digital biomarkers will be presented in a separate future data release

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CX-8998 Phase 2 Proof-of-Concept Study

Summary of TEAEs

	CX-8998 (N=48)	Placebo (N=47)
Any Adverse Event	28 (58%)	23 (49%)
Any Serious Adverse Event (SAE) - One subject with major depressive disorder, alcohol withdrawal, suicidal ideation*	1 (2%)	0
Any Related Adverse Event	21 (44%)	13 (28%)
Any Grade 3 (Not reported SAE) Adverse Event - one syncope (23 days after treatment completion) - one lethargy (following first dose, fully recovered in 3hrs)	2 (4%)	0
Any Discontinuation Due to Treatment Emergent Adverse Event	8 (17%)	2 (4%)
Most Common Related Treatment Emergent AES in CX-8998 Group **CNS SOC:** Dizziness (19%), headache (6%), disturbance in attention (4%), paresthesia (4%) **Psychiatric SOC:** Euphoric mood (6%), hallucination (4%), insomnia (4%) **Gastrointestinal SOC:** Dry mouth (4%)		

*patient had a prior history of these conditions and the events during the study were not considered related to study drug

Source: Jazz internal study report; Papapetropoulos S, et al. Efficacy Results from a Phase 2, Double-Blind, Placebo-Controlled Study of CX-8998 a State-Dependent T-Type Calcium (Cav3) Channel Modulator in Essential Tremor Patients (T-CALM). Platform presentation at the American Academy of Neurology 71st Annual Meeting, May 4 to May 10, 2019 in Philadelphia, PA

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CX-8998 Phase 2 Proof-of-Concept Study
Summary and Conclusions

- CX-8998 demonstrated improvement versus placebo in multiple secondary and exploratory endpoints
  - Improvements in activities of daily living, and patient reported and clinical outcome measures
- Safety and tolerability
  - CX-8998 AEs were mild to moderate, transient and non-recurring
  - Most AEs reported during first week of dosing
  - Most of the discontinuations occurred during the first two weeks

Source: Papapetropoulos S, et al. Efficacy Results from a Phase 2, Double-Blind, Placebo-Controlled Study of CX-8998 a State-Dependent T-Type Calcium (Cav3) Channel Modulator in Essential Tremor Patients (T-CALM). Platform presentation at the American Academy of Neurology 71st Annual Meeting, May 4 to May 10, 2019 in Philadelphia, PA.

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Jazz Next Steps for CX-8998 Development

Optimize Probability of Success in Late-Stage Development

- Conduct a broad range of studies commonly required to enable further development of this agent, including:
  - Clinical supply and stability
  - Pre-clinical and clinical pharmacology

Future Phase 2 Clinical Development Expected to Initiate in 2020

- Initial Phase 2 proof-of-concept study demonstrated clinical benefit in TETRAS-ADL
- Discussions with FDA suggest that TETRAS-ADL is a clinically relevant and meaningful primary endpoint to measure patient benefit
- Jazz has selected TETRAS-ADL as the primary endpoint for a future Phase 2 clinical study
  - Employ strategies to potentially reduce AEs and discontinuations through starting with lower doses and an adjusted titration schedule

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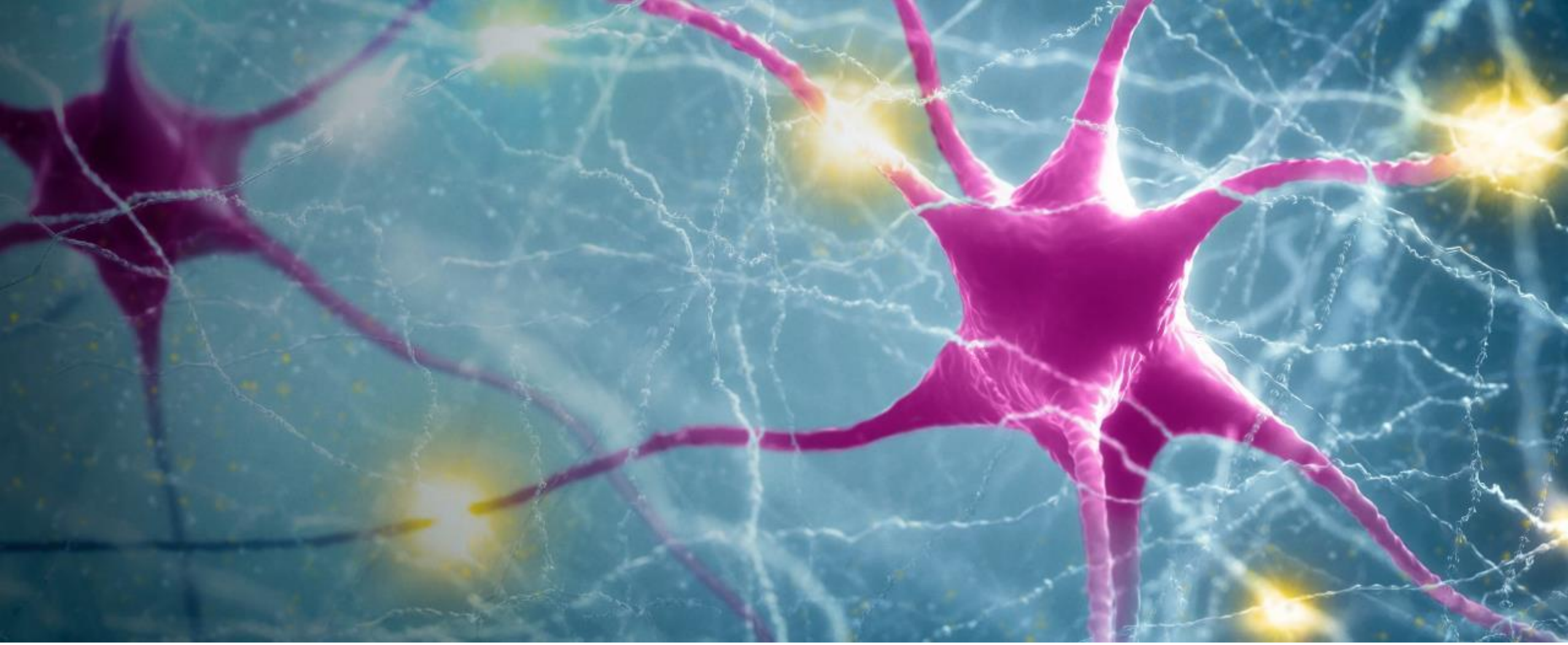

Appendix

Glossary of Abbreviations

1L = First Line
2L = Second Line
AE = Adverse Event
AAN = American Academy of Neurology
ADC = Antibody-Drug Conjugate
ADL = Activities of Daily Living
BID = Twice a day
Cav3 = T-type calcium channel modulator
CGI-I = Clinician Global Impression of Improvement
CNS = Central Nervous System
ET = Essential Tremor
EU5 = European Union Five (France, Germany, Italy, Spain, United Kingdom)
FDA = U.S. Food and Drug Administration
GAS = Goal Attainment Scale
HEOR = Health Economics and Outcomes Research
MOA = Mechanism of Action
MRI = Magnetic Resonance Imaging
PGIC = Patient Global Impression of Change
PNS = Peripheral Nervous System
PS = Performance Subscale
PTE = Patent Term Extension
R&D = Research & Development
SAE = Serious Adverse Event
SD = Standard Deviation
SEM = Standard Error of the Mean
SOC = System Organ Class
TEAE = Treatment-Emergent Adverse Events
TETRAS = The Essential Tremor Rating Assessment Scale
TETRAS-ADL = TETRAS Activities of Daily Living
TETRAS-PS = TETRAS Performance Subscale Score
TTCC = T-Type Calcium Channels

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