ZEVRA THERAPEUTICS

Corporate Presentation

April 2024

A Rare Approach to Therapeutics

NasdaqGS: ZVRA

Cautionary Note Regarding Forward-Looking Statements

This presentation may contain forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. Forward-looking statements include all statements that do not relate solely to historical or current facts, including without limitation and can be identified by the use of words such as “may,” “will,” “expect,” “project,” “estimate,” “anticipate,” “plan,” “believe,” “potential,” “should,” “continue,” “could,” “intend,” “target,” “predict,” or the negative versions of those words or other comparable words or expressions, although not all forward-looking statements contain these identifying words or expressions. Forward-looking statements are not guarantees of future actions or performance. These forward-looking statements include statements regarding the promise and potential impact of our preclinical or clinical trial data, including without limitation the timing and results of any clinical trials or readouts, our anticipated financial performance, our industry, business strategy, plans, goals and expectations concerning our market position, future operations, the timing or results of any Investigational New Drug applications and NDA submissions, including the resubmission of the New Drug Application (NDA) for arimoclomol, communications with the FDA, the potential uses or benefits of arimoclomol, KP1077, SDX or any other product candidates for any specific disease indication or at any dosage, the potential benefits of any of’ Zevra’s product candidates, the success or timing of the launch or commercialization of any products or related sales milestones, and our strategic and product development objectives. These forward-looking statements are based on information currently available to Zevra and its current plans or expectations and are subject to a number of known and unknown uncertainties, risks and other important factors including those discussed under the caption “Risk Factors” in our Annual Report on Form 10-K filed with the SEC on April, 2024, and in our other filings with the SEC could cause actual results, performance, or achievements to differ materially from those indicated by the forward-looking statements made herein.

While we may elect to update such forward-looking statements at some point in the future, except as required by law, we disclaim any obligation to do so, even if subsequent events cause our views to change. 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. These forward-looking statements should not be relied upon as representing our views as of any date subsequent to this presentation.

This presentation also may contain estimates and other statistical data made by independent parties and by us relating to market size and other data about our industry. This data involves a number of assumptions and limitations, and you are cautioned not to give undue weight to such estimates. In addition, projections, assumptions and estimates of our future performance and the future performance of the markets in which we operate are necessarily subject to a high degree of uncertainty and risk.

Becoming a Leading Rare Disease Company

Focused on Key Pillars for Strategic Growth

Our Mission:

Bringing life-changing therapeutics to people living with rare diseases

Experienced team with rare disease expertise

Commercial excellence to ensure patient access to therapeutics

Growing pipeline with potential to bring new products and deliver value for patients

Experienced Team with Rare Disease Expertise

Neil F. McFarlane
CEO and President

Adrian W. Quartel, MD FFPM
Chief Medical Officer

Joshua Schafer
Chief Commercial Officer & EVP of BD

Christal Mickle
Chief Development Officer & Co-Founder

R. LaDuane Clifton, CPA
CFO, Secretary & Treasurer

Sven Guenther, Ph.D.
Chief Scientific Officer

RARE DISEASE EXPERIENCE

ADAMAS · genzyme · BIOMARIN · Mallinckrodt Pharmaceuticals · astellas · Retrophin · Takeda

PRODUCT LAUNCH EXPERIENCE

GOCOVRI® (amantadine) extended release capsules 68.5 mg | 137 mg

Thiola EC® (tiopronin) Delayed-Release Tablets 100mg | 300mg

INOmax® (nitric oxide) GAS FOR INHALATION

EVENITY® (romosozumab-aqqg) injection 105 mg/1.17 mL

Cholbam® (cholic acid) capsules

Xtandi® (enzalutamide) 40 mg tablets | 80 mg tablets

OLPRUVA® (sodium phenylbutyrate) for oral suspension

XOSPATA® gilteritinib 40mg tablets

Establishing Zevra as a Rare Disease Company Through Robust Advocacy Partnership

ZEVRA THERAPEUTICS

National Urea Cycle Disorders Foundation

nnpdf
NATIONAL NIEMANN PICK DISEASE FOUNDATION

Sleep consortium

Ara Parseghian Medical Research Fund
University of Notre Dame

Global Genes®
Allies in Rare Disease

np uk

Firefly Fund
SHINING A LIGHT ON NPC1

Progress Together
Inpda
International Niemann-Pick Disease Alliance

EveryLife Foundation for Rare Diseases

Hope for Marian

hypersomnia foundation.org

NORD®

Wake Up Narcolepsy Inc.
CELEBRATING 15 YEARS

Narcolepsy Network
Supporting people with narcolepsy since 1986

projectsleep

Rare Disease Company Coalition

Diversified Portfolio with Potential to Bring New Products and Deliver Value for Patients

PHASE 1	PHASE 2	PHASE 3	NDA	FDA APPROVED	STATUS
OLPRUVA® *sodium phenylbutyrate for oral suspension* **Urea Cycle Disorder (UCD)**					**Full scale U.S. commercial launch Feb 2024**
Arimoclomol **Niemann-Pick Disease Type C (NPC)**					**PDUFA Sept 21, 2024**
Celiprolol **Vascular Ehlers-Danlos Syndrome (vEDS)**					**Phase 3 ongoing**
KP1077 **Idiopathic Hypersomnia (IH)**					**Phase 2 complete; data to be presented at SLEEP 2024 Evaluating potential Phase 3 trial**
KP1077 **Narcolepsy**					**Evaluating potential Phase 3 trial**
AZSTARYS® *serdexmethylphenidate and dexmethylphenidate* **Attention Deficit Hyperactivity Disorder (ADHD)***					**Receiving royalties and milestones on net sales[2]**

Zevra's Portfolio

- Asset portfolio targeting rare diseases
- Multiple upcoming milestones and catalysts
- Robust pipeline with clinical and commercial assets
- Overlap in treating physicians for OLPRUVA® and arimoclomol

Certain products may be subject to royalty obligations, details and required disclosures are available in our SEC filings or on our website: www.zevra.com.

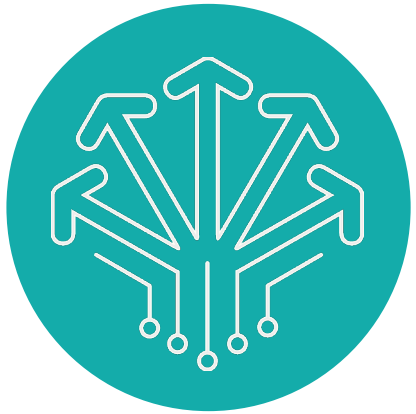
1. Data generated from this trial will be analyzed alongside the Phase 2 IH data to support clinical development of both narcolepsy and IH programs; 2. Zevra partnered asset

Commercial Excellence to Ensure Patient Access

Launch Excellence to Ensure Patient Access to Rare Disease Therapies

Overlap in Prescribers and Centers of Excellence for OLPRUVA® and arimoclomol allow for efficient team approach

Rare Disease Sales Specialists calling on prescribing physicians and Centers of Excellence



Patient Reimbursement Services to assist patients navigate reimbursement and treatment journey

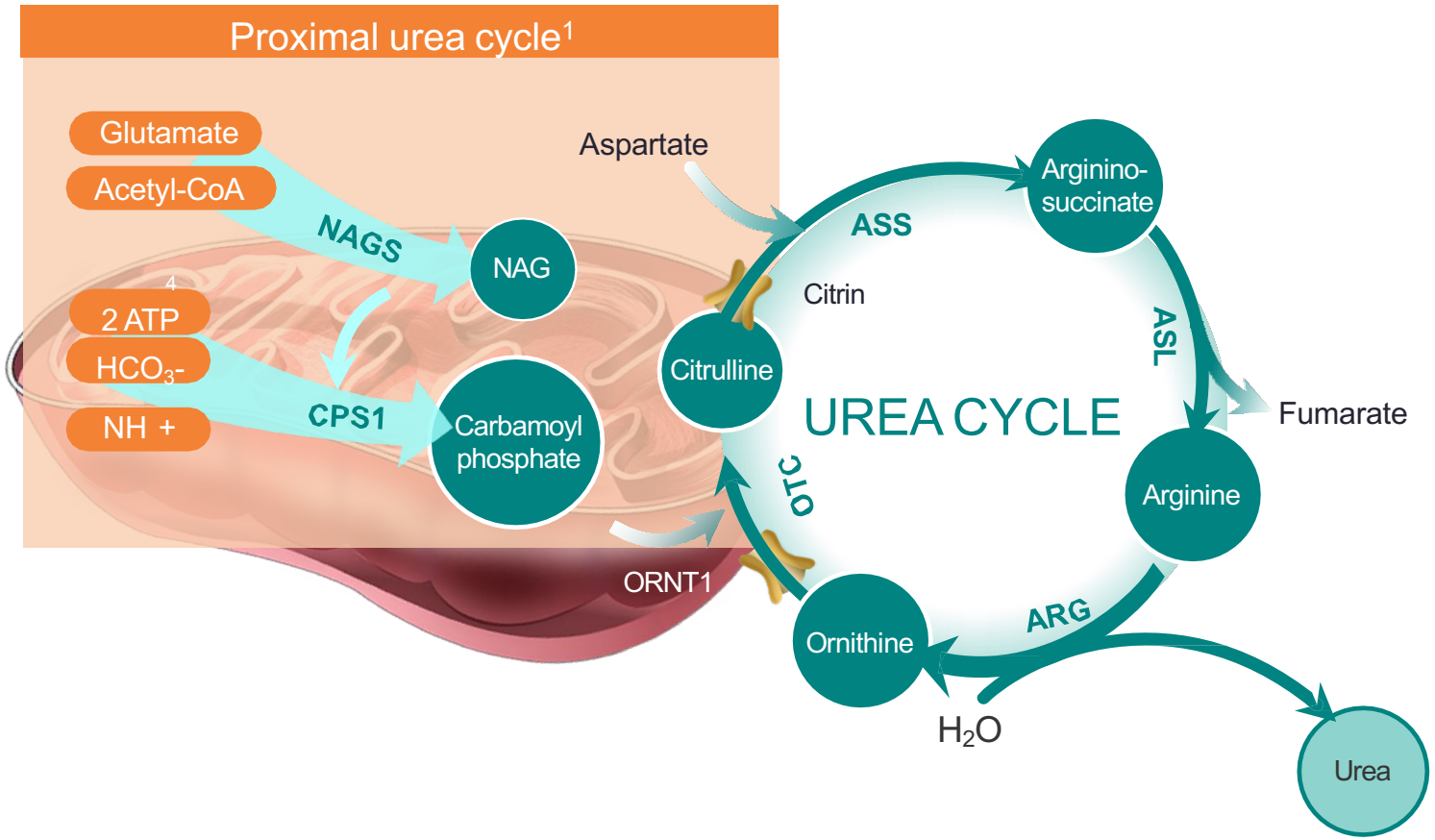
Marketing team to identify appropriate patients and product positioning in treatment landscape

Account Management & Contracting team to ensure market access and contracting with payors

Medical Affairs and Patient Advocacy team to work with Key Opinion Leaders and Advocacy Groups to advance scientific knowledge, and patient care

Urea Cycle Disorders Cause Hyperammonemia, Leading to Brain Damage or Death

OLPRUVA® is a nitrogen scavenger that removes excess ammonia



- Defect in one of the **6 enzymes** or **2 transporters** in the urea cycle leads to accumulation of ammonia
- A clinical hallmark of UCDs is hyperammonemic crises (HAC)
- Elevated ammonia levels can be neurotoxic, leading to neurocognitive damage, neurocognitive impairment and even death, if untreated
- Duration and severity of HAC correlates with brain damage, often requiring emergency visits and hospitalization

ARG, arginase; AS, argininosuccinate synthetase; ASL, argininosuccinate lyase; ATP, adenosine triphosphate; CoA, coenzyme A; CPS1, carbamoyl phosphate synthetase-1; NAG, N-acetylglutamate; NAGS, N-acetylglutamate synthetase; ORNT1, ornithine transporter; OTC, ornithine transcarbamylase.

1. Summar ML, Mew NA. *Pediatr Clin North Am*. 2018;65(2):231-246.

Unmet Need in Urea Cycle Disorders

Poor treatment adherence can lead to neurocognitive damage, coma and even death

Orphan Designation

- US Incidence: 1 in 35,000 births[1]
- US Prevalence:
  - Approximately 1 in 100,000[1]
  - ~1,100 patients diagnosed[2]
  - >800 treated[2]
- About 80% of patients have mutations in either CPS, OTC or AS enzymes[3]

Unmet Need

- Phenylbutyrates are approved to treat UCDs
- Palatability, odor, route of administration and packaging affect adherence
- More than 25% of HACs stem from poor treatment adherence[4]

United States (U.S.) Market

1. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4364413/
2. HealthVerify Payer Claims data analysis 2021
3. carbamylphosphate synthetase (CPS), ornithine transcarbamylase (OTC), or argininosuccinic acid synthetase (AS)
4. Enns GM, Porter MH, Francis-Sedlak M, Burdett A, Vockley J. 2019

OLPRUVA® Designed to Address Unmet Needs in Treatment of UCDs

Unique formulation in single-dose envelopes for ”ammonia control on the go”

UNIQUE FORMULATION DRIVES PALATABILITY AND ADHERENCE

- Novel formulation of phenylbutyrate
- Dual-coated formulation delays release in water for up to 5 minutes, rapidly dissolves in stomach
- Convenient, single-dose envelopes

FDA-APPROVED FOR LONG-TERM MANAGEMENT[1]

- Adjunctive therapy to standard of care
- Long-term management of adults and children
- UCDs involving deficiencies of CPS, OTC, AS[1]

COMPETITIVE ADVANTAGE

- Physicians attribute improved adherence to:
  - Better palatability
  - Less odor
  - Ease of administration
- Patent protection through 2036
- Current market estimated $350M

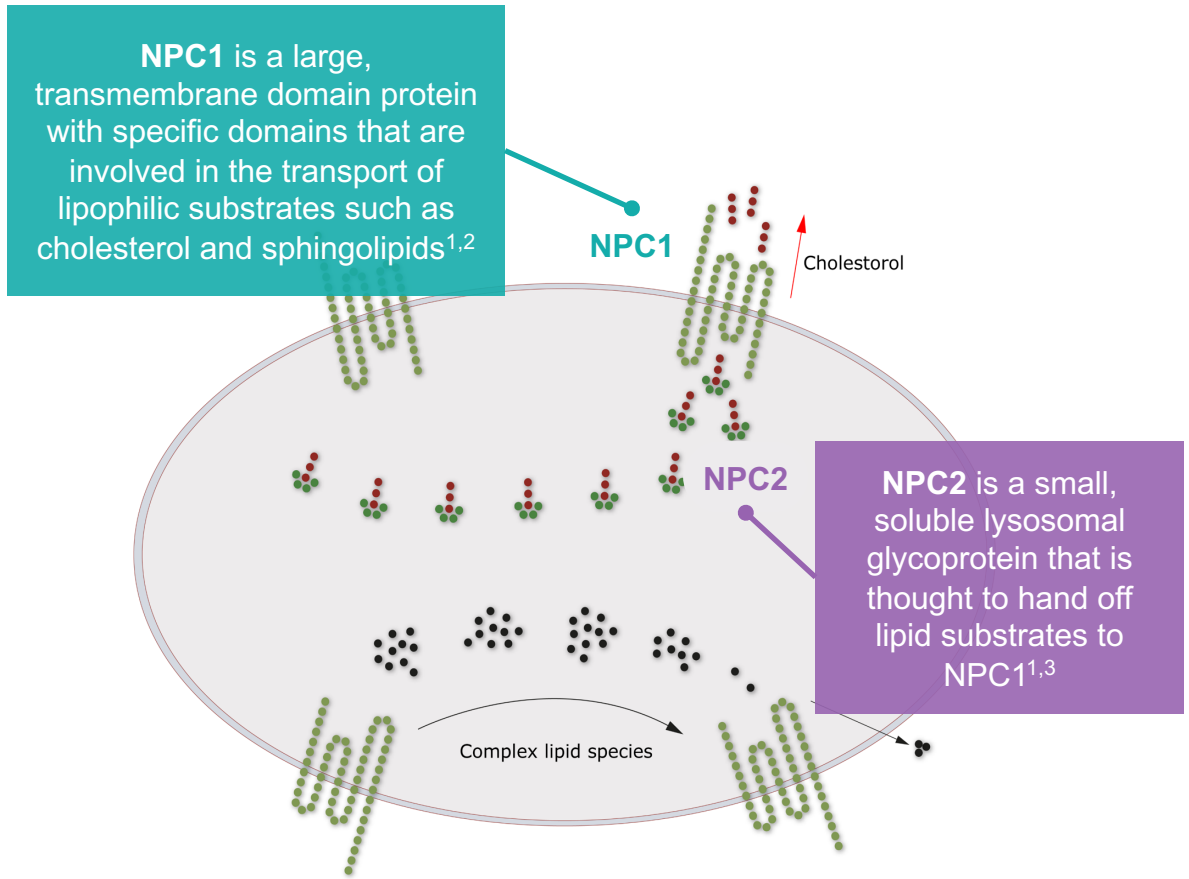
OLPRUVA helps the body get rid of excess nitrogen to help avoid dangerous buildup of ammonia

1. OLPRUVA is indicated as adjunctive therapy to standard of care, which includes dietary management, for the chronic management of adult and pediatric patients weighing 20 kg (44 pounds) or greater and with a body surface area (BSA) of 1.2 m2 or greater, with urea cycle disorders (UCDs) involving deficiencies of carbamylphosphate synthetase (CPS), ornithine transcarbamylase (OTC), or argininosuccinic acid synthetase (AS).
Product Insert can be found at https://olpruva.com/wp-content/uploads/OLPRUVA-Prescribing-Information.pdf
Important safety information can be found at https://olpruva.com/#ImportantSafetyInformation

Growing Pipeline in Rare Diseases

Niemann-Pick Disease Type C is a Neurodegenerative Lysosomal Storage Disorder

Cholesterol buildup leads to cell death; arimoclomol may enhance cholesterol metabolism through improved lysosomal function



- NPC gene mutations produce abnormal, absent or non-functional NPC proteins[4]
- Progressive lipid accumulation and cellular impairment leads to cell death and ultimately organ dysfunction in the spleen, liver and brain
- Disease results in impairment and loss of cognition, speech, swallow ability, fine motor skills and ambulation
- Heterogenous onset and rate of progression, always fatal

NPC, Niemann-Pick disease type C.

1. Carstea ED et al. *Science.* 1997;277:228-231. 2. Platt FM et al. *Annu Rev Genomics Hum Genet.* 2014;15:173-194. 3. Ingemann L, Kirkegaard T *J Lipid Res.* 2014;55:2198-2210. 4. Geberhiwot T, et al. Orphanet J Rare Dis. 2018 Apr 6;13(1):50.

No Approved NPC Treatments in the U.S.

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Ultra-rare, relentlessly progressive and fatal neurodegenerative disease

Orphan Designation

- Incidence: ~1 in 130,000 live births[1]
- Prevalence:
  - 1,800 patients estimated in EU and US
  - 900 patients estimated in US[2]
  - ~300 US patients currently diagnosed or treated[2]

Significant Unmet Need

- Neurocognitive decline adversely impacts daily living
- Irreversible and fatal disease
- Mean age of death is 13 years[2]
- No approved treatments exist in the U.S.

1. https://link.springer.com/article/10.1186/1750-1172-5-16
2. Burton et.al., Molecular Genetics and Metabolism Volume 134, Issues 1–2, September–October 2021, Pages 182-187

Arimoclomol is Positioned to Become First-Line Treatment for NPC Patients

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Evidence indicates that arimoclomol acts on multiple fronts to help reduce lipid build-up in cells with improved lysosomal function





FIRST-IN-CLASS, ORAL TREATMENT

- Potential to be the foundational therapy in U.S. for NPC, if approved
- Oral capsules can be swallowed whole, mixed with foods/liquids or delivered through feeding tube

EXTENSIVE CLINICAL EXPERIENCE WITH DEMONSTRATED SAFETY

- No significant safety findings (600+ patients treated)
- NPC pivotal study data demonstrate reduced disease progression[1]
- Long-term data suggest improved outcomes vs. historical controls[2]
- Ongoing global Expanded Access Program (EAP) with >150 patients treated in U.S. and E.U.

ADVANTAGEOUS REGULATORY DESIGNATION

- Orphan Drug Designation for NPC
- Fast-Track and Breakthrough Therapy Designations
- Eligible for Pediatric Rare Disease Priority Review Voucher if approved
  - Estimated value of ~$100M

Synergies and scale with Olpruva customer-facing team supporting both launches

1. Mengel E et al. J Inherit Metab Dis. 2021 Nov;44(6):1463-1480.
2. 4-year open-label extension of Phase 2/3 study

Vascular Ehlers-Danlos Syndrome Impairs Connective Tissue and Leads to Vascular Ruptures

Celiprolol designed to reduce the mechanical stress on collagen fibers within the arterial wall

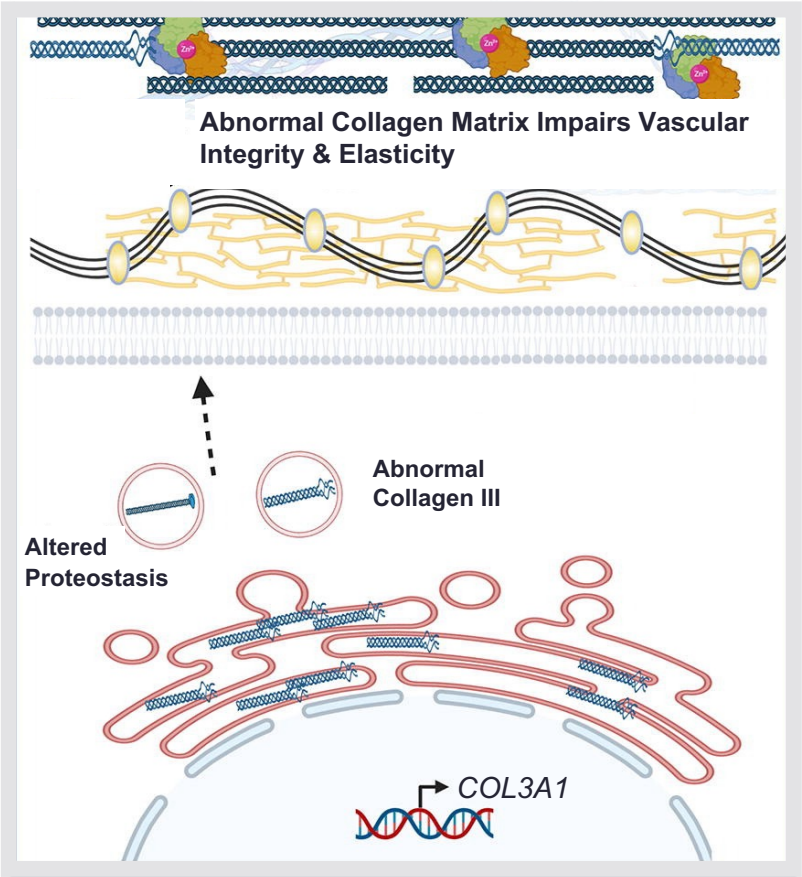

Figure adapted from Omar R, et al. Matrix Biol Plus. 2021 Nov 9;12:100090.

- vEDS (EDS type IV) is the severe subtype:
  - Characterized by aneurysms, dissections and/or ruptures
  - Large and medium sized arteries
  - Hollow organs (e.g., gastrointestinal, uterine)
- Autosomal dominant (50%); spontaneous mutations (50%)
- Diagnosed by clinical symptoms and confirmed by presence of mutations in the *COL3A1* gene
- Events occur in 25% of patients before the age of 20, and 90% by the age of 40
- The median survival age is 51 years, with arterial rupture being the most common cause of sudden death[1]

1. Pepin M, et al. Genet Med. 2014 Dec;16(12):881-8.

Unmet Need in Vascular Ehlers-Danlos Syndrome

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Mutation in COL3A1 gene impairs connective tissue and leads to vascular ruptures

Orphan Designation

- Incidence: 1 in 50,00 to 200,000 people[1]
- Prevalence 7,500 diagnosed patients in U.S. [2]

Significant Unmet Need

- No approved options in the U.S.
- Current treatment is focused on surgical intervention
- Celiprolol has become the primary treatment for vEDS patients in several European countries[3]

1. https://www.orpha.net
2. Estimate based on an analysis of diagnosed vEDS patients from the Truven MarketScan® database and U.S. population data.
3. FightvEds.org

Celiprolol is a Selective Adrenergic Modulator for Potential Treatment of Patients with *COL3A1*+ vEDS

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Phase 3 primary endpoint: time to first occurrence of primary cardiac or arterial clinical event





CELIPROLOL FOR VEDS

- Mechanism of action in vEDS patients is thought to be through vascular dilatation and smooth muscle relaxation
- May reduce the mechanical stress on collagen fibers within the arterial wall
- Unique pharmacological profile

CLINICAL EXPERIENCE

- BBEST Clinical study: 76% reduction in risk of arterial events observed in *COL3A1*+ subpopulation[1]
- Additional data from long-term observational study in France
- DiSCOVER Phase 3 decentralized (virtual) pivotal study ongoing

REGULATORY & IP ADVANTAGES

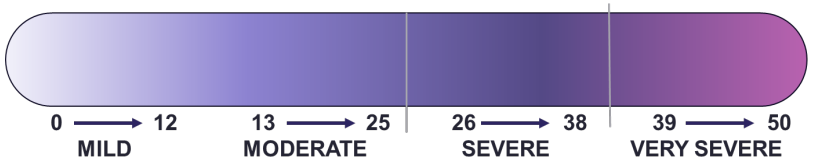
- New Chemical Entity in the U.S.
- Orphan Drug designation and Breakthrough Therapy Designation
- Special Protocol Assessment in place
- Registration enabling Phase 3 study
- Solid IP until 2038

1. https://www.sciencedirect.com/science/article/pii/S0735109719336939

Idiopathic Hypersomnia (IH) Causes Excessive Daytime Sleepiness, Sleep Inertia and Brain Fog

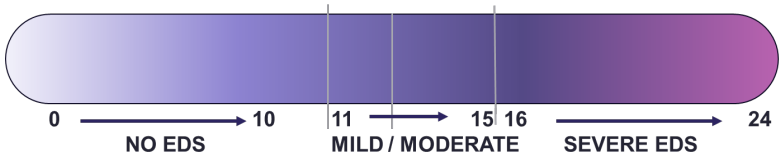
KP1077 may provide optimal exposure of methylphenidate to better address these unmet needs

Idiopathic Hypersomnia Severity Scale



- 14 questions on a scale of 0 to 3 or 0 to 4, totaling 50 points
- Higher scores, indicate more severe/frequent symptoms[1]
- Minimal Clinically Important Difference (MCID) of 4 points

Epworth Sleepiness Scale



- 8 questions on a scale of 0 to 3, totaling 24 points[4]
- Higher scores, indicate more severe daytime sleepiness
- 2- to 3-point change is considered MCID in sleep disorders[5]

- IH is a rare, debilitating, chronic neurologic disorder with an unknown pathophysiology
- Characterized by excessive daytime sleepiness (EDS)
- Excessively long sleep times
- Sleep inertia or difficulty waking
- Long and unrefreshing naps[3]
- Brain fog, memory problems, errors in habitual activities, mind blank and attention problems

*Idiopathic Hypersomnia Severity Scale is a self-report instrument designed to measure the severity of key symptoms of hypersomnolence

1. Dauvilliers Y, Evangelista E, Barateau L, et al. Measurement of symptoms in idiopathic hypersomnia: the Idiopathic Hypersomnia Severity Scale. *Neurology*. 2019;92(15):e1754-e1762.
2. Rassu AL et al. Idiopathic hypersomnia severity scale to better quantify symptoms severity and their consequences in idiopathic hypersomnia. *J Clin Sleep Med*. 2022;18(2):617-629.
3. ~25% of patients "long sleepers," >10hrs.
4. Johns MW. A new method for measuring daytime sleepiness: the Epworth Sleepiness Scale. *Sleep*. 1991;14(6):540–545
5. Patel S, et al.The Epworth Sleepiness Scale: Minimum Clinically Important Difference in Obstructive Sleep Apnea. Am J Respir Crit Care Med. 2018 Apr 1;197(7):961-963. doi: 10.1164/rccm.201704-0672LE.

Unmet Need in Idiopathic Hypersomnia

IH is a rare, debilitating, chronic neurologic disorder with an unknown pathophysiology

Orphan Designation

- Incidence: 10.3 per 100,000 people in the US[1]
- Prevalence: ~37,000 patients diagnosed[2]
- Total population may be much larger

Current Treatments Don't Address Needs

- Patients rated current medication effectiveness as poor (5.4 on a 10-point scale)[3]
- Tolerable stimulant treatment doses currently available are inadequate to treat brain fog
- Comorbidities complicate treatment (cardiovascular and patient demographics)
- Potential DDIs with contraceptives, antidepressants, antihistamines

1. https://doi.org/10.1093/sleep/zsy061.624
2. https://www.sleepcountshcp.com/what-is-idiopathic-hypersomnia
3. https://www.sleepcountshcp.com/idiopathic-hypersomnia-treatment-options

KP1077 is a Novel Approach to Treating IH

Unique PK profile and dosing regimen designed to address EDS and sleep inertia

KP1077 FOR IH

- Proprietary prodrug of d-MPH
- Potential to address primary IH symptoms
- Two dosing regimens being explored
  - Once daily at bedtime
  - 2x daily: once in the morning and once at bedtime
- Positive topline data from Phase 2 trial to be presented at SLEEP 2024

IMPROVED SAFETY & TOLERABILITY OVER EXISTING TREATMENTS

- Unique pharmacokinetic profile to overcome key symptoms
- Greater tolerability and lower cardiovascular effects
- No DDI potential with hormonal contraceptives; antidepressants

REGULATORY & IP ADVANTAGES

- Orphan Drug designation in IH
- Solid IP through 2037 and potentially beyond
- Less abuse potential (SDX is designated Schedule IV controlled substance by DEA in the U.S.)[1]

1. Zevra's proprietary prodrug of d-methylphenidate (d-MPH) has been classified as a Schedule IV controlled substance by the U.S. Drug Enforcement Administration (DEA).

Focused on Key Pillars for Strategic Growth

Our Mission:
Bringing life-changing therapeutics to people living with rare diseases




Rare Disease Team

- Strong experience in rare disease commercial launches
- Track record of success in drug development and in overcoming complex regulatory challenges

Commercial Excellence

- Growing capabilities in-line with vision for a patient-minded approach
- Immediate focus on driving awareness and dmand for OLPRUVA®
- Preparing for arimoclomol launch

Growing Pipeline

- Arimoclomol: PDUFA Sep 21, 2024
- Celiprolol: Ongoing Phase 3 program
- KP1077: Phase 2 complete; data to be presented SLEEP 2024

Financial strength to execute on our key priorities

Thank You

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Appendix

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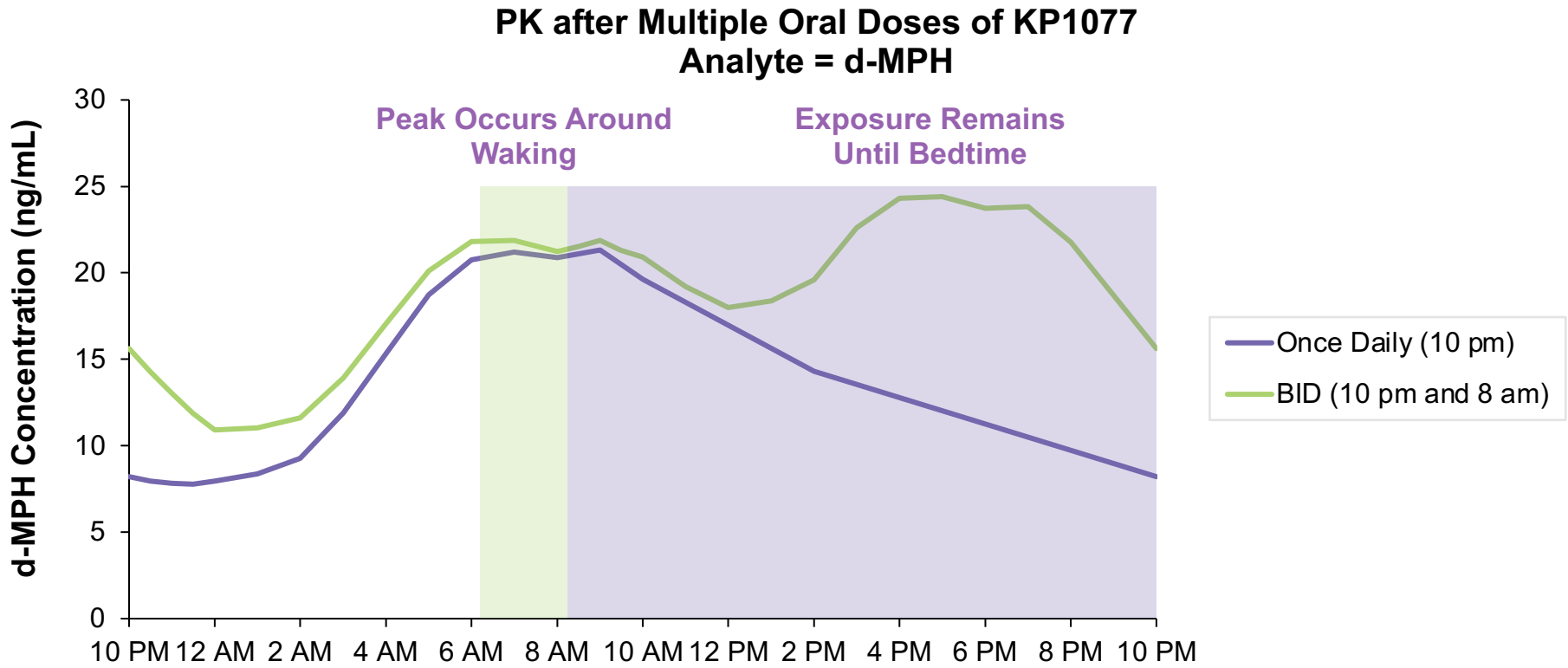
Arimoclomol NDA Resubmitted to FDA

Complete Response Letter (CRL) and FDA feedback gathered through multiple interactions/meetings has provided added clarity on resubmission package.

CRL	ZEVRA'S ONGOING RESPONSE
1 Sufficiency of validation and reliability of the Niemann-Pick type C Clinical Severity Scale (NPCCSS) instrument	Additional evidence provided to support use of the NPCCSS as the primary instrument in measuring NPC disease progression
2 Appropriateness of how to handle data affected by certain patient events and method of primary endpoint analysis	Using FDA preferred primary analysis and supportive additional analyses
3 Robustness of confirmatory evidence to support single efficacy study	Additional data from multiple new nonclinical studies provided, data from the 4-year open label extension of the Phase 2/3 clinical study

PDUFA: Sept 21, 2024

Two Dosing Regimens Being Explored to Achieve Sustained Symptom Management in IH



Phase 1 clinical trial results confirmed cardiovascular safety risk of KP1077 improved vs. immediate-release and long-acting formulations of Ritalin®, and KP1077 provided higher total exposure to d-MPH

Plasma concentrations were estimated based on data collected in study KP879.101

Predicted PK is shown for steady state of 240 mg KP1077 based on a single oral dose

Positive Topline Data from Phase 2 Study of KP1077 in IH

Multi-center, dose-optimizing, double-blind, placebo-controlled, randomized-withdrawal study to evaluate safety of KP1077, as well as potential efficacy endpoints

PHASE 2 STUDY (N=48)

Part 1:

- Five-week open-label titration phase
- Patients optimized to one of the four doses of KP1077 (80, 160, 240, or 320 mg/day)

Part 2:

- Two-week randomized, double-blind, withdrawal phase
- 2/3 receive KP1077; 1/3 placebo
- 50% receive single daily dose; 50% receive half daily dose upon awakening and at bedtime

INTERIM DATA:

To inform the design of the Phase 3 trial

Potential key differentiators:

1. Alignment of peak efficacy with patient need through dose optimized timing
2. Expanded exposure range through unique PK

PRIMARY ENDPOINT

- Safety and tolerability of KP1077

MAJOR SECONDARY ENDPOINT

- Change in Epworth Sleepiness Scale (ESS) total score

ADDITIONAL EXPLORATORY ENDPOINTS

- Patient Global Impression of Severity (PGI-S)
- Clinical Global Impression of Severity (CGI-S)
- Change in total score on the Idiopathic Hypersomnia Severity Scale (IHSS)
- Sleep Inertia at 1 hour after awakening
- New scale to assess the symptoms and severity of “Brain Fog”