

## **Forward-Looking Statements**

Any statements in this press release about future expectations, plans and prospects for the Company, including statements about the Company's strategy, future operations, clinical development and trials of its therapeutic candidates, plans for potential future product candidates and other statements containing the words "anticipate," "believe," "estimate," "expect," "intend," "may," "plan," "predict," "project," "suggest," "target," "potential," "will," "would," "could," "should," "continue," and similar expressions, constitute forward-looking statements within the meaning of The Private Securities Litigation Reform Act of 1995. Actual results may differ materially from those indicated by such forward-looking statements as a result of various important factors, including: the expectations surrounding the continued advancement of the Company's product pipeline; the potential safety and efficacy of the Company's product candidates and their regulatory and clinical development; the Company's intention to pursue strategic alternatives for OLINVYK and the ability of any such strategic alternative to provide shareholder value; the expected financial and operational impacts of the Company's decision to reduce commercial support for OLINVYK; the status, timing, costs, results and interpretation of the Company's clinical trials or any future trials of any of the Company's investigational drug candidates; the uncertainties inherent in conducting clinical trials; expectations for regulatory interactions, submissions and approvals, including the Company's assessment of discussions with FDA; available funding; uncertainties related to the Company's intellectual property; uncertainties related to other matters that could affect the availability or commercial potential of the Company's therapeutic candidates and approved product; and other factors discussed in the Risk Factors set forth in the Company's Annual Report on Form 10-K and Quarterly Reports on Form 10-Q filed with the Securities and Exchange Commission (SEC) and in other filings the Company makes with the SEC from time to time. In addition, the forward-looking statements included in this press release represent the Company's views only as of the date hereof. The Company anticipates that subsequent events and developments may cause the Company's views to change. However, while the Company may elect to update these forward-looking statements at some point in the future, it specifically disclaims any obligation to do so, except as may be required by law.



## **Trevena's Experienced Leadership Team**

### **SENIOR MANAGEMENT**

| Carrie L. Bourdow       | Chair, President & Chief Executive Officer                  | CUBIST DEMERCK                  |
|-------------------------|---|---------------------------------|
| Mark A. Demitrack, M.D. | SVP, Chief Medical Officer                                  | NEURONETICS Lily ROIVANT        |
| Patricia Drake          | SVP, Chief Commercial Officer                               | MERCK sesen                     |
| Barry Shin              | EVP, Chief Operating Officer and CFO                        | MIZUHO GUGGENHEIM PiperJaffray. |
| Robert T. Yoder         | SVP, Chief Business Officer & Head of Commercial Operations | MERCK OREXIGEN*                 |

#### **BOARD OF DIRECTORS**

| Carrie L. Bourdow                                | <b>%</b> CTrevena                         | Jake R. Nunn           | NEA. ( SR One                 |
|--|---|------------------------|-------------------------------|
| Scott Braunstein, M.D. Lead Independent Director | MARINUS AISLING PACIRA CAPITAL PROCESSION | Anne M. Phillips, M.D. | novo nordisk* GlaxoSmithkline |
| Mark Corrigan, M.D.                              | TREMEAU SEPRACOR                          | Barbara Yanni          | <b>₩ MERCK</b>                |
| Marvin H. Johnson, Jr.                           | <b>€</b> MERCK                            |                        |                               |



## **Trevena: Innovative CNS Company**



IV OLINVYK:
Differentiated profile

NCE approved for the management of acute pain in adults\*

Significant cost savings / differentiation shown in 'real world' post-approval studies



TRV045: Selective S1PR modulator

**S1PR:** Validated target for blockbusters (fingolimod / siponimod / ozanimod / ponesimod)

TRV045: Unique profile (with potential for no lymphopenia) for new indications



TRV045: Compelling PoC Data

Statistically significant, dose-dependent effect in validated model of neuropathic pain Statistically significant EEG changes and evidence of early reduction in cortical excitability



Novel
CNS pipeline

New mechanisms for acute / neuropathic pain, epilepsy, acute migraine, opioid use disorder NCEs targeting significant unmet needs



**Financial position** 

\$33.0M cash and equivalents as of YE 2023

\*OLINVYK is indicated in adults for the management of acute pain severe enough to require an intravenous opioid analgesic and for whom alternative treatments are inadequate. Please see Important Safety Information including BOXED WARNING at the end of presentation.

Full Prescribing Information at <a href="https://www.OLINVYK.com">www.OLINVYK.com</a>



## **Multiple Expected Catalysts**

|   | PRE-CLIN          | PHASE 1     | PHASE 2                     | PHASE 3                | NDA              | POST-APPR     | Highlights   |
|---|-------------------|-------------|-----------------------------|------------------------|------------------|---------------|--|
| OLINVYK® New chemical entity (mu-opioid receptor)       | IV acute pain*    |             |                             |                        | APPROVED >       |               | <ul> <li>Approved</li> </ul>   |
|   |                   | Cleveland ( | Clinic / Wake Forest        | Baptist Health collab. | VOLITION clinic  | al outcomes > | Real world differentiation   |
|   |                   | Cleveland ( | Clinic / Wake Forest        | Baptist Health collab. | ARTEMIS clinica  | al outcomes > | • \$8.8k / 1.4 day savings   |
|   |                   |             |                             |                        | Respiratory phy  | siology       | Data reported  |
|   |                   |             |                             |                        | Cognitive functi | on >          | Data reported  |
| TRV045 Selective S1P receptor modulator                 | PoC - pain / targ |             | )<br>igating potential dise | ase modifying role     |                  |               | <ul><li>Data reported</li><li>Data reported</li><li>Data expected mid-year '24</li></ul> |
| TRV734 G-protein selective agonist (mu-opioid receptor) | Opioid use disor  | rder NIH    | H / NIDA collab.            |                        |                  |               | POC study ongoing  |

\*OLINVYK is indicated in adults for the management of acute pain severe enough to require an intravenous opioid analgesic and for whom alternative treatments are inadequate. Please see Important Safety Information including BOXED WARNING at the end of presentation.

Full Prescribing Information at <a href="https://www.OLINVYK.com">www.OLINVYK.com</a>





# **OLINVYK Overview**

### **OLINVYK: Differentiated Profile for Acute Pain**

OLINVYK is indicated in adults for the management of acute pain severe enough to require an intravenous opioid analgesic and for whom alternative treatments are inadequate

### **Data in complex patients**

Elderly / obese, multiple comorbidities

### Simplified, predictable dosing

No adjustment in renal impaired

No active metabolites

Well-characterized safety / tolerability

Studied in over 1,900 individuals



### **New chemical entity**

Distinct from IV morphine

### IV opioid efficacy

Hard- and soft-tissue surgeries

### Rapid analgesia

1-3 min median onset of pain relief



## **VOLITION Clinical Outcomes Study w/ Cleveland Clinic**

Further characterizes respiratory, GI and cognitive outcomes

- Open-label, multi-site study led by experts at Cleveland Clinic and Wake Forest Baptist Health
- N = 203 adults undergoing major non-cardiac surgery treated with IV OLINVYK

### **GI Tolerability**



52.7% complete GI response<sup>1</sup>

defined as no vomiting / no antiemetic use through study period

<sup>1</sup> In pooled Phase 3 data for OLINVYK, GI complete response rate was 46.2% (0.35mg) and 39.7% (0.5mg)

### **Respiratory Outcomes**



22.8% respiratory compromise

defined as any one of five respiratory events<sup>2</sup> over **48hrs** of continuous monitoring

<sup>2</sup> End-tidal PCO<sub>2</sub> ≤ 15 mmHg for ≥3 min; RR ≤ 5 breaths/min for ≥3 min; SpO<sub>2</sub> ≤ 85% for ≥3 min; apnea episode >30 sec; any serious respiratory event

### **Cognitive Function**



90%+ alert / calm at all points<sup>3</sup>

<4% symptoms of delirium<sup>4</sup>

<sup>3</sup> Richmond Agitation-Sedation Scale <sup>4</sup> 3D-CAM screening tool

As reflected in the OLINVYK label, nausea and vomiting were two of the most common AEs reported in the controlled clinical trials

As with all opioids, serious, life-threatening, or fatal respiratory depression may occur in patients treated with OLINVYK

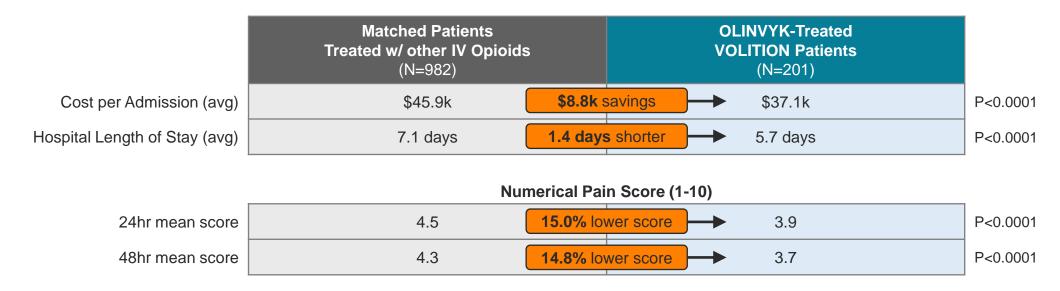
Sedation is an established risk of opioids including OLINVYK



## **ARTEMIS EMR-Based Clinical Outcomes Study**

Statistically significant differentiation on a range of meaningful endpoints

- 201 OLINVYK-treated patients at Cleveland Clinic and Wake Forest Baptist Health VOLITION sites
- 982 matched patients undergoing similar surgical procedures, treated with other IV opioids, at same sites during VOLITION study



As with all opioids, addiction, abuse and misuse, which can lead to overdose and death may occur in patients treated with OLINVYK as indicated in the boxed warning

EMR analysis does not provide definitive data of group differences as seen in a prospectively randomized study



## **OLINVYK: Ease of Dosing and Administration**

3 vials allow for flexible and tailored IV dosing

- Bolus Dosing: 1 mg and 2 mg vials (single dose)
- **PCA Dosing:** 30 mg vial (single patient use)
- OLINVYK 1 mg ≈ morphine 5 mg<sup>1</sup>

27 mg cumulative daily dose limit

Do not administer single doses greater than 3 mg



~\$100 / day

(estimated avg cost across procedures)

Please see Important Safety Information including BOXED WARNING at the end of presentation. Full Prescribing Information at <a href="https://www.OLINVYK.com">www.OLINVYK.com</a>.

1) For an initial dose. PCA = Patient-Controlled Analgesia





# **TRV045 Overview**

## **S1P<sub>1</sub> Receptor – Novel Target for CNS Indications**

S1P<sub>1</sub> receptors are highly expressed on key CNS cells involved in neuroinflammation

Potential therapeutic role in seizures, epileptogenesis and pain signaling

### **Epilepsy**

- Neuroprotective effects<sup>3</sup>
- Modulates BBB permeability, anti-inflammatory effects<sup>4,5</sup>



### **Neuropathic pain**

- Inhibits pain sensation<sup>1</sup>
- Inhibits excitatory neuronal signaling<sup>2</sup>



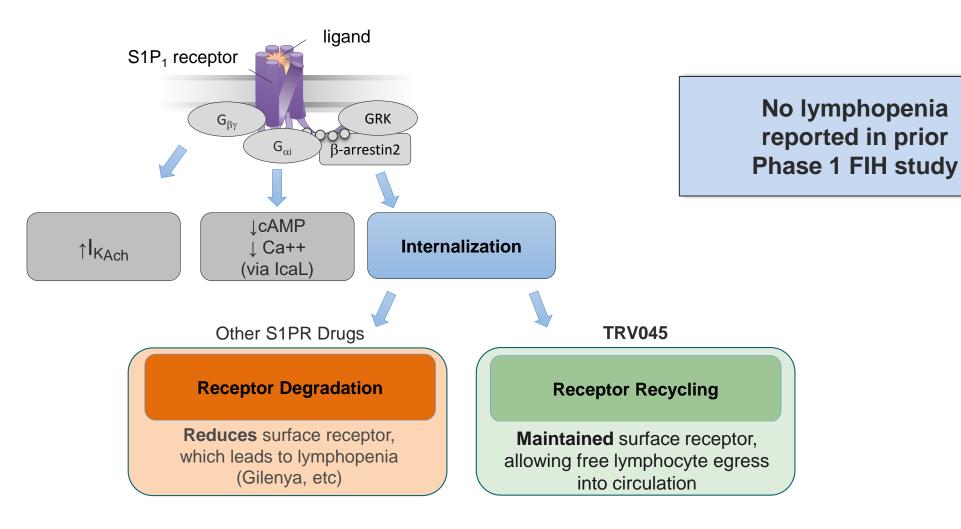
Existing S1PR-targeted drugs, however, are ill-suited for CNS indications due to known:

Lymphopenia Cardiac AEs Pulmonary AEs Ophthalmologic AEs



## **TRV045 MOA (1): Rapid Receptor Recycling**

Maintained (rather than degraded) S1P receptors on cell surface





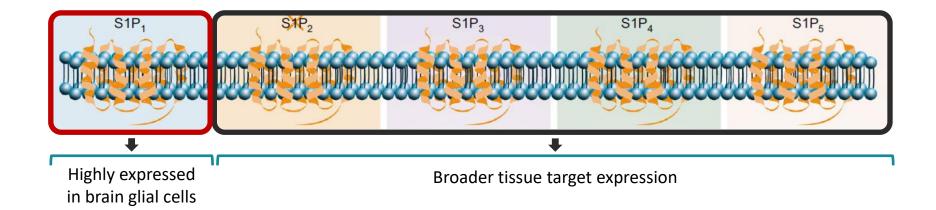
FIH = First in human Source: Trevena data on file

## TRV045 MOA (2): S1PR Subtype-1 Selectivity

Subtype-1 is broadly expressed in the CNS and may avoid effects associated with other subtypes

- S1P acts on 5 distinct subtypes of receptors (S1P<sub>1-5</sub>)
- TRV045 is potent and selective for S1P subtype-1 receptor
  - S1P<sub>1</sub>R is highly expressed on astrocytes / other glial cells
  - May play role in central pain signaling, as well as development and persistence of seizures

Highly expressed in key CNS / brain cells





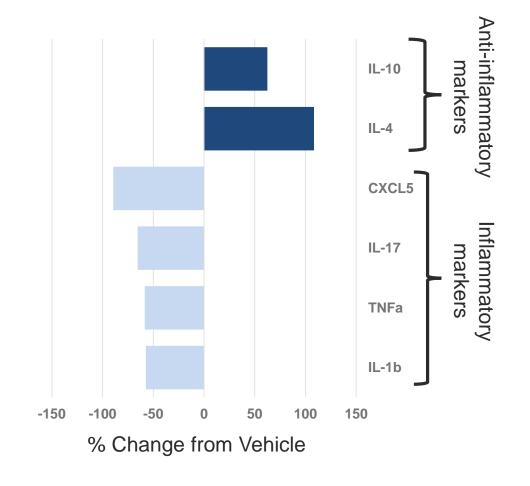
## TRV045 MOA (3): Anti-Inflammatory Effect (nonclinical)

Anti-inflammatory actions (cytokines / chemokines) on astrocytes in cell culture

- Main Findings: Net anti-inflammatory action (statistically significant) on astrocyte cytokine / chemokine release
  - Increased all <u>anti-inflammatory</u> markers measured<sup>1</sup>
  - Reduced all <u>inflammatory</u> markers measured<sup>1</sup>
- Method: Primary mouse astrocytes in monolayer cell culture, incubated for 24hrs w/ 5 μM TRV045
  - 17 cytokines / chemokines<sup>2</sup> assessed by ELISA

TRV045-affected cytokines / chemokines play a role in many CNS disorders

(epilepsy, pain, neuropsych / neurodegen diseases)



Tray(2) |

<sup>1)</sup> P<0.05 v vehicle

<sup>2)</sup> Full cytokine / chemokine panel studied: (Inflammatory markers) – TNFa, IL-6, IL-1b, IL-17, IL-23, IL-33, CCL1, CCL2, CCL20, CXCL5, CXCL12, CX3CL1, IFNg, Csf2, Substance P; (Anti-inflammatory markers) – IL-10, IL-4. (Trevena, Inc., data on file)

## **TRV045 Proof-of-Concept Study Program – Highlights**

- Target Engagement. Demonstrated CNS penetration and target engagement
- Neuropathic Pain. Statistically significant, dose-dependent effect in validated model of neuropathic pain
- **EEG Spectral Power.** Statistically significant *increases* in brain waves (alpha, beta, gamma) associated with <u>arousal</u>, <u>alertness</u>, <u>cognitive processing</u>, <u>learning</u> and <u>memory</u>

Statistically significant *decrease* in delta brain waves, and *no significant change* in theta brain waves, both of which are associated with <u>sedation</u> / <u>sleep</u>

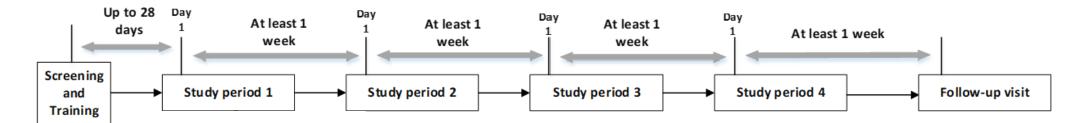
• Cortical Excitability. Directional evidence of early reduction in cortical excitability

Not all of the results were statistically significant; details of the findings are presented on the following slides



## Target Engagement (PainCart®) POC Study Design

- Design: Randomized, double-blind, placebo-controlled, single dose, four-way cross-over (N=25 subjects; 8F/17M, mean age 37.6 years, range 18-53)
  - Placebo or TRV045 (50/150/300mg)



- Pharmacodynamic Endpoints:
  - Mechanical allodynia (Von Frey hair testing on capsaicin-treated skin), pressure pain, heat pain (capsaicin-treated, UVB-exposed, and unexposed skin), cold pain (CPT), electrical pain (stair, burst conditions), conditioned pain modulation (electrical pain pre- and post-CPT)
- PK exposure parameters (C<sub>max</sub>, t½)
- Safety and tolerability



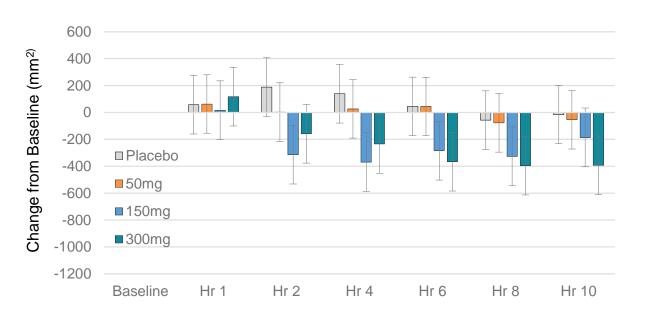
## **TRV045 Significantly Reduced Mechanical Allodynia**

1% capsaicin-treated dominant volar forearm – Von Frey filament allodynic area (CFB, mm²)

300mg TRV045 v Placebo; P=0.0023

150mg TRV045 v Placebo; P=0.0022

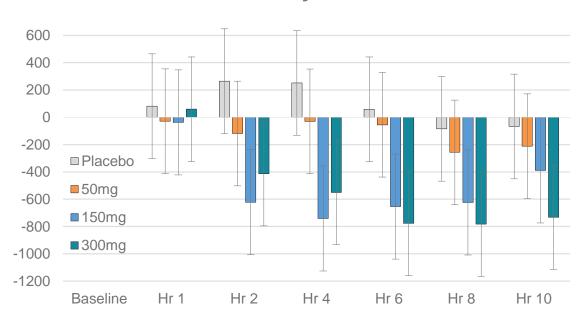
### **Secondary Allodynic Area**



300mg TRV045 v Placebo; P=0.0001

150mg TRV045 v Placebo; P=0.0002

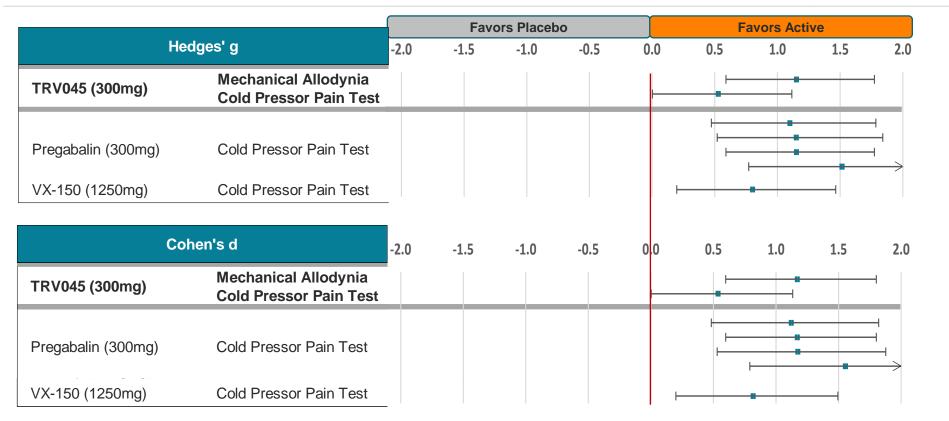
### **Total Allodynic Area**





Source: Trevena data on file

### **Effect Size Comparison: TRV045 v Other Analgesics**



#### **Effect Size:**

- +0.2 small effect
- +0.5 medium effect
- +0.8 large effect

- Studies for comparators conducted at <u>same</u> lab (CHDR) conducting TRV045 studies
- Single highest result for each comparator provided (cold pressor) from a battery of CHDR tests conducted
  - Mechanical allodynia test was not conducted on comparators



## **Target Engagement (PainCart®) Study**

### PainCart observations

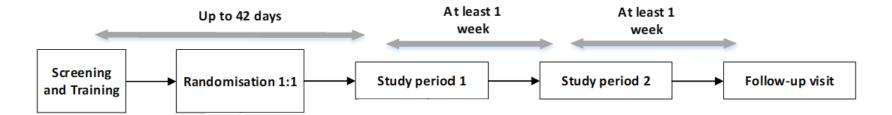
- Statistically significant, dose-dependent, treatment effect in model of capsaicin-induced mechanical allodynia provides evidence of the therapeutic potential of TRV045 in neuropathic pain
  - Recognized and validated study index of central pain processing ('central sensitization')
  - Note that effect appeared similar with both 150mg and 300mg dose, potentially guiding future decisions on dose range for use in Phase 2
- Supportive evidence of analgesic action in select other nociceptive models
  - Other endpoints did not show trend / statistically significant results (pressure pain / conditioned pain modulation)
- Overall, strong support for CNS penetrance and engagement of pain signaling pathways in the brain
  - PK exposure consistent with parameters observed at comparable doses studied under fed conditions in Phase 1 FIH study
- No SAEs, no drug-related study discontinuations

Trevena<sup>®</sup>

Source: Trevena data on file

## **TMS POC Study Design**

- Design: Randomized, double-blind, placebo-controlled, multiple dose, two-way cross-over (n=25 male subjects; mean age 31.5 years, range 21-55)
  - Placebo or TRV045 (250mg) for 4 days; post-dose assessments performed at 4 hours

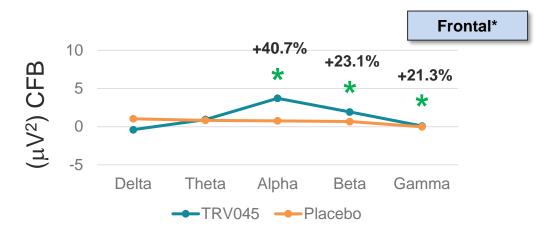


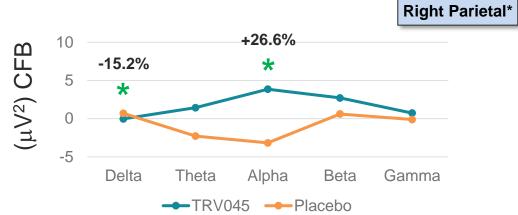
- TMS-EEG Pharmacodynamic endpoints:
  - Resting qEEG power spectral analysis (eyes open/eyes closed): Alpha, Beta, Delta, Gamma, Theta bands
  - TMS-evoked EEG response (single and paired-pulse TMS)
- TMS-EMG Pharmacodynamic endpoints:
  - Motor-evoked potential (MEP), resting motor threshold (single pulse TMS), paired-pulse TMS

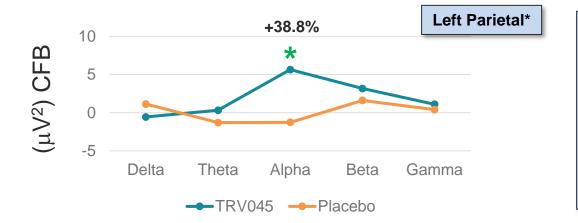


## EEG Shifts in Alpha, Beta, Gamma, Delta Power Spectra

Resting qEEG Power Spectral Analysis – Eyes Open, Day 4 TRV045 v Placebo All Bands







<u>Alpha</u>: Significant increase across all regions <u>Beta/Gamma</u>: Significant increase in frontal region

**Delta**: Significant reduction in right parietal region

**Theta**: No significant difference

associated with alertness / arousal memory / learning

associated with sedation / sleep

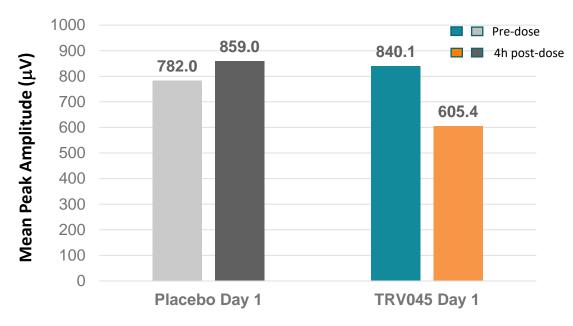


\* Denotes pairwise comparison P < 0.05

Frontal = Fz-Cz; left parietal = Pz-O1; right parietal = PzO2 CFB = change from baseline; Source: Trevena data on file Mantini, D, et al. PNAS (2007); Beste, C, et al. Nature Comm Biol (2023); Edwards, DJ and Trujillo, LT, Brain Sci (2021); Holler, Y, et al., CNS Drugs (2018)<sup>22</sup>

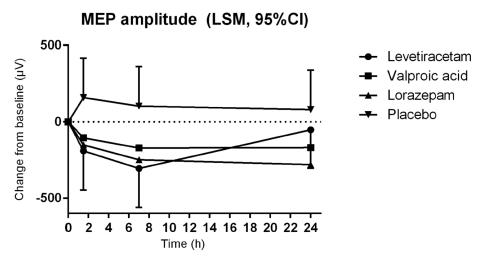
## TRV045 Effect on Cortical Excitability vs AEDs\*

Mean change from baseline in motor-evoked potential (MEP) measured by peak-to-peak amplitude



Est. difference TRV045 v placebo (not stat. sig.)

• -304.14  $\mu$ V, 95% CI -688.19 to 79.919 (P=0.1182)



Estimated difference vs placebo:

- Levetiracetam: -378.4 μV, 95% CI -644.3 to -112.5; P<0.01</li>
- Valproic acid: -268.8 μV, 95% CI -532.9 to -4.6; P=0.047
- Lorazepam: -330.7.4 μV, 95% CI -595.6 to -65.8; P=0.02

Mean change from baseline in MEP on Day 1 with TRV045 comparable in magnitude to MEP reductions seen with known AEDs, including levetiracetam, valproic acid, and lorazepam, performed in the same laboratory



### **Safety and Tolerability Summary**

POC data generally consistent with FIH study

- No AEs assessed as probably / definitely related to study drug; no AEs reported as severe; no SAEs
  - 98% of AEs (102 of 104) in PainCart® study reported as mild
  - 99% of AEs (79 of 80) in TMS study reported as mild
- Screening / follow-up physical exams (including ophthalmologic exams) with no clinically significant findings
- Lab results showed **no drug-related**: Reduction in total lymphocyte count

Changes in heart rate or blood pressure

Changes in ECG interval measures (no prolongation of PR or QTcF intervals)



### **Safety and Tolerability Summary**

Generally well tolerated and consistent with FIH study

• AEs with incidence of ≥10% for any TRV045 dose shown below (none deemed drug related)

| PainCart Study           |                                     | Placebo                    |             | TRV045 50mg            |             | TRV045 150mg                  |             | TRV045 300mg                  |             |
|--------------------------|-------------------------------------|----------------------------|-------------|------------------------|-------------|-------------------------------|-------------|-------------------------------|-------------|
|                          |                                     | N (%)                      | Events      | N (%)                  | Events      | N (%)                         | Events      | N (%)                         | Events      |
| General Disorders        | Fatigue                             | 3 (12%)                    | 3           | 1 (4%)                 | 1           | 3 (12%)                       | 3           | 2 (8%)                        | 2           |
| Nervous System Disorders | Dizziness<br>Headache<br>Somnolence | 2 (8%)<br>2 (8%)<br>2 (8%) | 2<br>2<br>3 | 0<br>3 (12%)<br>2 (8%) | 0<br>3<br>2 | 3 (12%)<br>8 (32%)<br>5 (20%) | 3<br>9<br>5 | 3 (12%)<br>8 (32%)<br>8 (32%) | 3<br>9<br>8 |

|                          | Plac                   | ebo                | TRV045 250mg |                    |         |
|--------------------------|------------------------|--------------------|--------------|--------------------|---------|
| TMS Study                | N (%)                  | Events             | N (%)        | Events             |         |
| General Disorders        | Fatigue                | 1 (4%)             | 3            | 3 (12%)            | 5       |
| Nervous System Disorders | Headache<br>Somnolence | 6 (22%)<br>4 (15%) | 8 3          | 9 (36%)<br>3 (12%) | 12<br>4 |

No clinically signficant difference (vs placebo) in any AEs including:

Sedation Balance Disorders

**Attention Disturbances** 

Nausea Dry Mouth

Blurred Vision



### **Overall Conclusions**

TRV045 Proof-of-Concept Study Program

Taken together, these two POC studies provide strong support and direction for future development of TRV045

- Target Engagement. Demonstrated CNS penetration and target engagement
- Neuropathic Pain. Statistically significant, dose-dependent effect in validated model of neuropathic pain
- Epilepsy. Promising evidence of early reduction in cortical excitability

Statistically significant *increases* in brain waves (alpha, beta, gamma) associated with <u>arousal</u>, <u>alertness</u>, <u>cognitive processing</u>, <u>learning</u> and <u>memory</u>

Statistically significant *decrease* in delta brain waves, and *no significant change* in theta brain waves, which are both associated with <u>sedation</u> / <u>sleep</u>

• **Differentiated Profile.** Novel MOA; expected once-daily oral dosing; potentially effective with favorable safety / tolerability

## **TRV045: Broad Potential Applicability**

Unique MOA Produces Compelling Profile

Potent and selective S1P<sub>1</sub>R target engagement

anti-inflammatory and nociceptive effects

**No lymphopenia** (in FIH study) potentially limits other S1PR modulators

May avoid AEs associated with approved S1PR drugs

cardiac / pulmonary / ophthalmologic

Potential fields for development may include:

Seizure treatment (anticonvulsant)

Prevention of seizure (epileptogenesis) ◀—

potential disease-modifying MOA

Pain (DPN, CIPN)

Autoimmune (MS, RA, UC, Crohn's Disease)

Neuropsychiatric / neurodegenerative (MDD, schizophrenia, AD, PD)



### **Trevena: Innovative CNS Company**



IV OLINVYK: Differentiated profile

NCE approved for the management of acute pain in adults\*

Significant cost savings / differentiation shown in 'real world' post-approval studies



TRV045: Selective S1PR modulator

**S1PR:** Validated target for blockbusters (fingolimod / siponimod / ozanimod / ponesimod)

TRV045: Unique profile (with potential for no lymphopenia) for new indications



TRV045: Compelling PoC Data

Statistically significant, dose-dependent effect in validated model of neuropathic pain Statistically significant EEG changes and evidence of early reduction in cortical excitability



Novel CNS pipeline

New mechanisms for acute / neuropathic pain, epilepsy, acute migraine, opioid use disorder NCEs targeting significant unmet needs



**Financial position** 

\$33.0M cash and equivalents as of YE 2023

\*OLINVYK is indicated in adults for the management of acute pain severe enough to require an intravenous opioid analgesic and for whom alternative treatments are inadequate. Please see Important Safety Information including BOXED WARNING at the end of presentation.

Full Prescribing Information at <a href="https://www.OLINVYK.com">www.OLINVYK.com</a>





# IMPORTANT SAFETY INFORMATION

#### IMPORTANT SAFETY INFORMATION

# WARNING: SERIOUS AND LIFE-THREATENING RISKS FROM USE OF OLINVYK

### Addiction, Abuse, and Misuse

Because the use of OLINVYK exposes patients and other users to the risks of opioid addiction, abuse, and misuse, which can lead to overdose and death, assess each patient's risk prior to prescribing and reassess all patients regularly for the development of these behaviors and conditions.

### <u>Life-Threatening Respiratory Depression</u>

Serious, life-threatening, or fatal respiratory depression may occur with use of OLINVYK, especially during initiation or following a dosage increase. To reduce the risk of respiratory depression, proper dosing and titration of OLINVYK are essential.

### Risks From Concomitant Use With Benzodiazepines Or Other CNS Depressants

Concomitant use of opioids with benzodiazepines or other central nervous system (CNS) depressants, including alcohol, may result in profound sedation, respiratory depression, coma, and death. Reserve concomitant prescribing of OLINVYK and benzodiazepines or other CNS depressants for use in patients for whom alternative treatment options are inadequate.

### **Neonatal Opioid Withdrawal Syndrome**

If opioid use is required for an extended period of time in a pregnant woman, advise the patient of the risk of NOWS, which may be lifethreatening if not recognized and treated. Ensure that management by neonatology experts will be available at delivery.

#### INDICATIONS AND USAGE

OLINVYK is an opioid agonist indicated in adults for the management of acute pain severe enough to require an intravenous opioid analgesic and for whom alternative treatments are inadequate.

#### Limitations of Use

Because of the risks of addiction, abuse, and misuse with opioids, which can occur at any dosage or duration, reserve OLINVYK for use in patients for whom alternative treatment options [e.g., non-opioid analgesics or opioid combination products]:

- Have not been tolerated or are not expected to be tolerated.
- Have not provided adequate analgesia or are not expected to provide adequate analgesia.

The cumulative total daily dose should not exceed 27 mg.

#### **CONTRAINDICATIONS**

OLINVYK is contraindicated in patients with:

- Significant respiratory depression
- Acute or severe bronchial asthma in an unmonitored setting or in absence of resuscitative equipment
- Known or suspected gastrointestinal obstruction, including paralytic ileus
- Known hypersensitivity to oliceridine (e.g. anaphylaxis)



### WARNINGS AND PRECAUTIONS

- OLINVYK contains oliceridine, a Schedule II controlled substance, that exposes users to the risks of addiction, abuse, and misuse. Although the risk of addiction in any individual is unknown, it can occur in patients appropriately prescribed OLINVYK. Assess risk, counsel, and monitor all patients receiving opioids.
- Serious, life-threatening respiratory depression has been reported with the use of opioids, even when used as recommended, especially in patients with chronic pulmonary disease, or in elderly, cachectic and debilitated patients. The risk is greatest during initiation of OLINVYK therapy, following a dose increase, or when used with other drugs that depress respiration. Proper dosing of OLINVYK is essential, especially when converting patients from another opioid product to avoid overdose. Management of respiratory depression may include close observation, supportive measures, and use of opioid antagonists, depending on the patient's clinical status.
- Opioids can cause sleep-related breathing disorders including central sleep apnea (CSA) and sleep-related hypoxemia with risk increasing in a dose-dependent fashion. In patients who present with CSA, consider decreasing the dose of opioid using best practices for opioid taper.
- Profound sedation, respiratory depression, coma, and death may result from the concomitant use of OLINVYK with benzodiazepines and/or other CNS depressants (e.g., non-benzodiazepine sedatives/hypnotics, anxiolytics, tranquilizers, muscle relaxants, general anesthetics, antipsychotics, other opioids, or alcohol). Because of these risks, reserve concomitant prescribing of these drugs for use in patients for whom alternative treatment options are inadequate, prescribe the lowest effective dose, and minimize the duration.
- Use of OLINVYK for an extended period of time during pregnancy can result in withdrawal in the neonate that may be life-threatening. Observe newborns for signs of neonatal opioid withdrawal syndrome and manage accordingly. Advise pregnant women using opioids for a prolonged period of the risk of neonatal opioid withdrawal syndrome and ensure that appropriate treatment will be available.
- OLINVYK was shown to have mild QTc interval prolongation in thorough QT studies where patients were dosed up to 27 mg. Total cumulative daily doses exceeding 27 mg per day were not studied and may increase the risk for QTc interval prolongation. Therefore, the cumulative total daily dose of OLINVYK should not exceed 27 mg.
- Increased plasma concentrations of OLINVYK may occur in patients with decreased Cytochrome P450 (CYP) 2D6 function or normal metabolizers taking moderate or strong CYP2D6 inhibitors; also in patients taking a moderate or strong CYP3A4 inhibitor, in patients with decreased CYP2D6 function who are also receiving a moderate or strong CYP3A4 inhibitor, or with discontinuation of a CYP3A4 inducer. These patients may require less frequent dosing and should be closely monitored for respiratory depression and sedation at frequent intervals. Concomitant use of OLINVYK with CYP3A4 inducers or discontinuation of a moderate or strong CYP3A4 inhibitor can lower the expected concentration, which may decrease efficacy, and may require supplemental doses.
- Opioid-Induced Hyperalgesia (OIH) occurs when an opioid analgesic paradoxically causes an increase in pain, or an increase in sensitivity to pain. This differs from tolerance where increasing doses are required to maintain the desired effect. Symptoms of OIH include, but may not be limited to, increased levels of pain upon dose increase, decreased levels of pain upon dose decrease, or pain from ordinarily non-painful stimuli (allodynia). These symptoms may suggest OIH only if there is no evidence of disease progression, opioid tolerance, withdrawal, or addictive behavior. If OIH is suspected, carefully consider appropriately decreasing the dose of the current opioid analgesic or opioid rotation.



### WARNINGS AND PRECAUTIONS

- Cases of adrenal insufficiency have been reported with opioid use (usually greater than one month). Presentation and symptoms may be nonspecific and include nausea, vomiting, anorexia, fatigue, weakness, dizziness, and low blood pressure. If confirmed, treat with physiologic replacement doses of corticosteroids and wean patient from the opioid.
- OLINVYK may cause severe hypotension, including orthostatic hypotension and syncope in ambulatory patients.
  There is increased risk in patients whose ability to maintain blood pressure has already been compromised by a
  reduced blood volume or concurrent administration of certain CNS depressant drugs (e.g., phenothiazines or general
  anesthetics). Monitor these patients for signs of hypotension. In patients with circulatory shock, avoid the use of
  OLINVYK as it may cause vasodilation that can further reduce cardiac output and blood pressure.
- Avoid the use of OLINVYK in patients with impaired consciousness or coma. OLINVYK should be used with caution
  in patients who may be susceptible to the intracranial effects of CO<sub>2</sub> retention, such as those with evidence of
  increased intracranial pressure or brain tumors, as a reduction in respiratory drive and the resultant CO<sub>2</sub> retention can
  further increase intracranial pressure. Monitor such patients for signs of sedation and respiratory depression,
  particularly when initiating therapy.
- As with all opioids, OLINVYK may cause spasm of the sphincter of Oddi, and may cause increases in serum amylase. Monitor patients with biliary tract disease, including acute pancreatitis, for worsening symptoms.
- OLINVYK may increase the frequency of seizures in patients with seizure disorders and may increase the risk of seizures in vulnerable patients. Monitor patients with a history of seizure disorders for worsened seizure control.
- Do not abruptly discontinue OLINVYK in a patient physically dependent on opioids. Gradually taper the dosage to avoid a withdrawal syndrome and return of pain. Avoid the use of mixed agonist/antagonist (e.g., pentazocine, nalbuphine, and butorphanol) or partial agonist (e.g., buprenorphine) analgesics in patients who are receiving OLINVYK, as they may reduce the analgesic effect and/or precipitate withdrawal symptoms.
- OLINVYK may impair the mental or physical abilities needed to perform potentially hazardous activities such as driving a car or operating machinery.
- Although self-administration of opioids by patient-controlled analgesia (PCA) may allow each patient to individually
  titrate to an acceptable level of analgesia, PCA administration has resulted in adverse outcomes and episodes of
  respiratory depression. Health care providers and family members monitoring patients receiving PCA analgesia
  should be instructed in the need for appropriate monitoring for excessive sedation, respiratory depression, or other
  adverse effects of opioid medications.

#### ADVERSE REACTIONS

Adverse reactions are described in greater detail in the Prescribing Information.

The most common (incidence ≥10%) adverse reactions in Phase 3 controlled clinical trials were nausea, vomiting, dizziness, headache, constipation, pruritus, and hypoxia.

#### MEDICAL INFORMATION

For medical inquiries or to report an adverse event, other safety-related information or product complaints for a company product, please contact the Trevena Medical Information Contact Center at 1-844-465-4686 or email MedInfo@Trevena.com.

You are encouraged to report suspected adverse events of prescription drugs to the FDA. Visit <a href="https://www.fda.gov/medwatch.or.call.1-800-FDA-1088">www.fda.gov/medwatch.or.call.1-800-FDA-1088</a>.

PLEASE see <a href="https://www.oLINVYK.com">www.oLINVYK.com</a> for full prescribing information including BOXED warning and important safety information

