UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 8-K

CURRENT REPORT
Pursuant to Section 13 or 15(d)
of The Securities Exchange Act of 1934

Date of Report (Date of earliest event reported): January 9, 2023

TREVENA, INC.

(Exact name of registrant as specified in its charter)

Delaware (State or other jurisdiction of incorporation)

001-36193 (Commission File No.) 26-1469215 (IRS Employer Identification No.)

955 Chesterbrook Boulevard, Suite 110 Chesterbrook, PA 19087

(Address of principal executive offices and zip code)

(610) 354-8840

(Registrant's telephone number, including area code)

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions:

- Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)
- Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)
- Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))
- " Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common Stock, \$0.001 par value	TRVN	The Nasdaq Stock Market LLC

Indicate by check mark whether the registrant is an emerging growth company as defined in Rule 405 of the Securities Act of 1933 (§230.405 of this chapter) or Rule 12b-2 of the Securities Exchange Act of 1934 (§240.12b-2 of this chapter). Emerging growth company "

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act.

Item 7.01 Regulation FD Disclosure

On January 9, 2023, Trevena, Inc. (the "Company") updated its website to include an updated corporate presentation deck. A copy of the updated corporate deck is attached hereto as Exhibit 99.1.

Also on January 9, 2023, the Company updated its website to include a TRV045 overview deck. A copy of the TRV045 overview deck is attached hereto as Exhibit 99.2.

The information set forth on this Item 7.01 and furnished hereto as Exhibits 99.1 and 99.2 shall not be deemed "filed" for purposes of Section 18 of the Exchange Act, and is not incorporated by reference into any of the Company's filings under the Securities Act or the Exchange Act, whether made before or after the date hereof, except as shall be expressly set forth by specific reference in any such filing.

Item 8.01 Other Events.

On January 9, 2023, the Company issued a press release announcing the enrollment of the first subject in a Phase 1 proof-of-concept study of TRV045, a novel sphingosine-1-phosphate receptor modulator selective for the S1P receptor subtype 1. The Phase 1 study will use a validated set of analgesic tests to evaluate potential central and peripheral nervous system effects and to provide insight into the potential anti-inflammatory actions of TRV045. A copy of the press release is filed as Exhibit 99.3 to this Current Report on Form 8-K and incorporated herein by reference.

Item 9.01 Financial Statements and Exhibits.

(d) Exhibits.

No.	Description
99.1	Corporate Presentation Deck dated January 9, 2023
<u>99.2</u>	TRV045 Overview Deck dated January 9, 2023
<u>99.3</u>	Press Release dated January 9, 2023
104	The cover page from this Current Report on Form 8-K, formatted in Inline XBRL

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned hereunto duly authorized.

TREVENA, INC.

Date: January 9, 2023 /s/ Barry Shin

Barry Shin Senior Vice President & Chief Financial Officer



Forward-Looking Statements

To the extent that statements contained in this presentation are not descriptions of historical facts regarding Trevena, Inc. (the "Company" or "we"), they are forward-looking statements reflecting management's current beliefs and expectations. Forward-looking statements are subject to known and unknown risks, uncertainties, and other factors that may cause our or our industry's actual results, levels of activity, performance, or achievements to be materially different from those anticipated by such statements. You can identify forward-looking statements by terminology such as "anticipate," "believe," "estimate," "expect," "intend," "may," "might," "plan," "objective," "predict," "project," "suggest," "target," "potential," "will," "would," "could," "should," "continue," "ongoing," or the negative of these terms or similar expressions. Forward-looking statements contained in this presentation include, but are not limited to, (i) statements regarding the timing of anticipated clinical trials for our product candidates; (ii) the timing of receipt of clinical data for our product candidates; (iii) our expectations regarding the potential safety, efficacy, or clinical utility of our product candidates; (iv) the size of patient populations targeted by our product candidates and market adoption of our potential drugs by physicians and patients; (v) the timing or likelihood of regulatory filings and approvals; and (vi) our cash needs.

Actual results may differ materially from those indicated by such forward-looking statements as a result of various important factors, including: the commercialization of any approved drug product, the status, timing, costs, results and interpretation of our clinical trials or any future trials of any of our investigational drug candidates; the uncertainties inherent in conducting clinical trials; expectations for regulatory interactions, submissions and approvals, including our assessment of the discussions with the FDA or other regulatory agencies about any and all of our programs; uncertainties related to the commercialization of OLINVYK; available funding; uncertainties related to our intellectual property; uncertainties related to the ongoing COVID-19 pandemic, other matters that could affect the availability or commercial potential of our therapeutic candidates; and other factors discussed in the Risk Factors set forth in our 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 we make with the SEC from time to time. In addition, the forward-looking statements included in this presentation represent our views only as of the date hereof. We anticipate that subsequent events and developments may cause our views to change. However, while we may elect to update these forward-looking statements at some point in the future, we specifically disclaim any obligation to do so, except as may be required by law.



Trevena's Experienced Leadership Team

SENIOR MANAGEMENT CUBIST Carrie L. Bourdow President & Chief Executive Officer MERCK NEURONETICS Mark A. Demitrack, M.D. SVP, Chief Medical Officer **ROIVANT** sesen MERCK Patricia Drake SVP, Chief Commercial Officer SVP, Chief Financial Officer **MIZUHO** GUGGENHEIM PiperJaffray. **Barry Shin** SVP, Chief Business Officer & Head OREXIGEN MERCK Robert T. Yoder of Commercial Operations **BOARD OF DIRECTORS** Leon O. Moulder, Jr. Chairman TESARO TESARO MERCK Marvin H. Johnson, Jr. Carrie L. Bourdow Trevena[®] Jake R. Nunn NEA. MARINUS AISLING PACIRA novo nordisk[®] Scott Braunstein, M.D. Anne M. Phillips, M.D. Adolor centocor Michael R. Dougherty Barbara Yanni MERCK

Trevena

.

Trevena: Innovative CNS Company



IV OLINVYK: Differentiated profile

NCE approved for the management of acute pain in adults

Launch in Q1 2021; additional supportive studies vs. IV morphine with near-term data



Large market, targeted launch

45M+ US hospital patients; 9M procedures is initial core focus

\$1.5B+ market opportunity for core focus



TRV045: Selective S1PR modulator Novel candidate for CNS disorders (with potential broader applicability)

Phase 1 study completed; proof-of-concept study initiated



Novel CNS pipeline

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



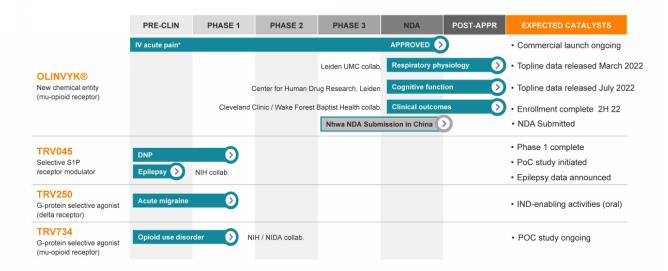
Solid financial position

\$40.4M cash / equivalents / marketable securities @ Q3 \$8M Registered Direct financing in November 2022



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 www.OLINVYK.com. NCE = New Chemical Entity; MOA = Mechanism of Action; NIH = National Institutes of Health;

Multiple Expected Catalysts





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 www.OLINVYK.com.

TRV250, TRV734 and TRV045 are investigational products and are not approved by the FDA or any other regulatory agency; NDA = New Drug Application, PoC = Proof-of-Concept, DNP = Diabetic Neuropathic Pain

Ex-US Royalty-Based Financing Highlights

Blue Chip Investor	R-Bridge Healthcare Fund affiliate of CBC Group (one of the largest and most active healthcare-dedicated investment firms in Asia)	
\$40M Total Financing	\$15M upfront (received April 2022) \$10M on commercial or financing milestone \$15M on first commercial sale in China \$40M total	
Flexible Payments*	 Chinese Royalties. All royalties from Nhwa partnership, TRVN retains milestones Capped US Royalty. 4% royalty on US OLINVYK net sales, with \$10M cap* 	
Constructive Terms	 No financial covenants Negative pledge only until Chinese approval Flexibility for additional business development opportunities 	

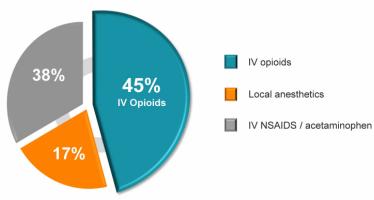




(

Large Market Opportunity – Acute Pain





45M patients receive IV opioids annually to treat acute pain¹

> IV opioids have unrivalled analgesic efficacy

Top surgeries: Total knee arthroplasty, colectomy, hernia repair, spine fusion, C-section²



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 www.OLINVYK.com.
Opioids are associated with serious, potentially life-threatening adverse reactions.
NSAIDs = nonsteroidal anti-inflammatory drugs. 1) IMS MIDAS sales audit 2017; IV NSAIDs and Offirmev®. 2) Definitive database, and National Vital Statistics report. CDC 2018.

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

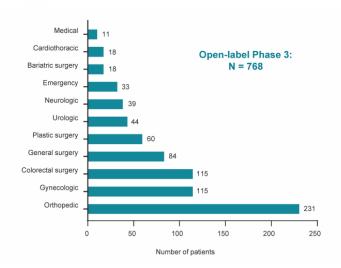
Data in complex patients New chemical entity Elderly / obese, multiple comorbidities Distinct from IV morphine Simplified, predictable dosing IV opioid efficacy No adjustment in renal impaired Hard- and soft-tissue surgeries No active metabolites (oliceridine) injection Well-characterized safety / tolerability Rapid analgesia Studied in over 1,900 individuals 1-3 min median onset of pain relief



Trevend* Please see Important Safety Information including BOXED WARNING at the end of presentation. Full Prescribing Information at www.oLINVYK.com.

OLINVYK Studied in Complex Surgeries & Patients

Broad range of surgeries / medical procedures



Complex patients included

- 32% ≥ 65 years; 46% BMI ≥ 30
- Co-morbidities: diabetes, obstructive sleep apnea, COPD, chronic / cancer pain
- · Concomitant medications: antiemetics, antibiotics

Multiple inpatient and hosp outpatient settings

- Hospital recovery
- · Emergency department
- · Critical care
- · Ambulatory surgical centers

Low discontinuation for AEs / lack of efficacy

- · 2% for adverse events
- · 4% for lack of efficacy



Please see Important Safety Information including BOXED WARNING at the end of presentation. Full Prescribing Information at www.OLINVYK.com. Bergess SD et al. J Pain Research, 2019. Trial modeled real-world use: usual patient care with CUINVYK instead of standard IV opioid. See FDA draft guidance for Industry Distributing Scientific and Medical Publications on Unapproved New Uses.

(

OLINVYK: Well-Characterized Safety / Tolerability

Adverse drug reactions reported in ≥5% of OLINVYK-treated patients stratified by daily dose (Phase 3 pivotal trials pooled)¹

	Placebo (N = 162)	OLINVYK ≤ 27 mg (N = 316)	Morphine (N = 158)
Patients with any TEAE (%)	73	86	96
Nausea	35	52	70
Vomiting	10	26	52
Headache	30	26	30
Dizziness	11	18	25
Constipation	9	14	14
Hypoxia	3	12	17
Pruritus	6	9	19
Sedation	5	7	13
Somnolence	4	6	10
Back pain	4	6	6
Hot flush	4	4	8
Pruritus gen.	1	2	10

Not an adequate basis for comparison of rates between the OLINVYK treatment group and the morphine treatment group.

Key cost-drivers associated with IV opioids:

Vomiting

Can result in significant health risks and compromise recovery

Somnolence

Significant patient safety concern, can lead to respiratory depression

O₂ saturation < 90%

Independent predictor of early post-op respiratory complications



Trevena* Please see Important Safety Information including BOXED WARNING at the end of presentation. Full Prescribing Information at www.OLINVYK.com.
1) OLINVYK Prescribing Information.

Respiratory Physiology Study

Head-to-Head Comparison of OLINVYK and IV morphine in Elderly/Overweight Subjects (N=18)

Assessment of Respiratory Function:

- · Increase inhaled CO2 to experimentally induce respiratory drive
- Impact of drug measured as change in minute ventilation
- · Greater reductions in minute ventilation indicate more respiratory depression
- · Validated method to estimate the impact of a drug on respiratory drive



Assessment of Pain Threshold:

· Analgesic comparison measured using valid models of induced cold and electrical pain

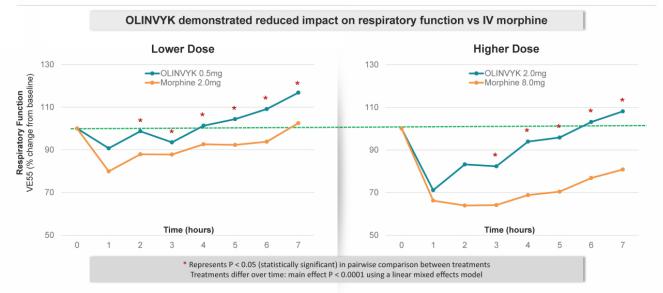


As with all opioids, serious, life-threatening, or fatal respiratory depression may occur in patients treated with OLINVYK.



Trevend* Please see Important Safety Information including BOXED WARNING at the end of presentation. Full Prescribing Information at www.OLINVYK.com.

Respiratory Physiology Study: Elderly / Overweight Subjects



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



Please see Important Safety Information including BOXED WARNING at the end of presentation. Full Prescribing Information at www.OLINVYK.com

Respiratory Physiology Study Observations

- Study population comprised elderly individuals (56 to 87 years, mean = 71.2) with BMI ranging from 20 to 34 (mean = 26.3)
- · Both OLINVYK and IV morphine achieved comparable levels of pain relief. A statistically significant reduced impact on respiratory function was observed in patients treated with OLINVYK as measured by the mean respiratory ventilation profiles over time (P<0.0001)
- · The study replicates the results from the earlier study in younger subjects using a similar methodology¹. The findings extend our knowledge to patients who are at higher risk for the development of respiratory depression with the use of opioids, namely the elderly and overweight patients

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



1. Soergel DG, et al. Pain. 2014;155:1829-1835 Trevena® Please see Important Safety Information including BOXED WARNING at the end of presentation. Full Prescribing Information at www.OLINVYK.com.

Top Line Data: OLINVYK vs IV Morphine Cognitive **Function Study**

Clinical assessment of OLINVYK's potential impact on cognitive function vs. IV morphine

- · Randomized, double-blind, placebo-controlled, crossover study
- N = 23 subjects, 19-53 years old (median age 26), 13 females & 10 males
- · Topline data received July 2022

Cognitive function assessment: NeuroCart



- · Comprehensive CNS test battery, used in testing a wide range of CNS drugs for 30 years
- Cognitive outcome measures include major domains of motor performance, attention, reaction time, memory, and executive function

Study will also include pain model testing (cold pressor test) and PK assessment



Trevend* Please see Important Safety Information including BOXED WARNING at the end of presentation. Full Prescribing Information at www.OLINVYK.com.

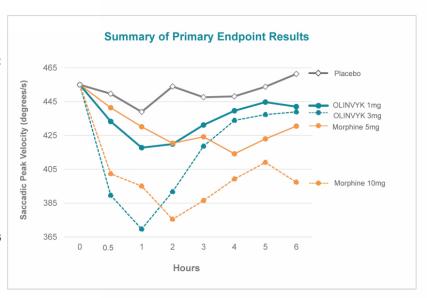
OLINVYK Showed Evidence of Reduced Impact on Neurocognitive Function Compared to IV Morphine

OLINVYK showed a statistically significant reduction in sedation versus IV morphine

· Measured by saccadic eye movement peak velocity (a sensitive measure of sedating action of medications)

The prespecified mixed-model repeated measures ANOVA highlighted a difference between treatments:

- · Main effect of treatment: P<0.0001
- OLINVYK versus IV morphine: P=0.0236





Please see Important Safety Information including BOXED WARNING at the end of presentation. Full Prescribing Information at www.OLINVYK.com.

Secondary Endpoint Results

OLINVYK showed a statistically significant difference or trend (vs IV morphine) on several prespecified secondary endpoints, despite the relatively small sample size, across a range of neurocognitive measures and motor performance:

- Reaction Time. Reduced impact on saccadic eye movement reaction time
 - Main effect, P=0.0201 OLINVYK vs IV morphine, P=0.0273
- Postural Stability (Motor Function). Reduced body sway, a measure of motor function
 - Main effect, P=0.0314 OLINVYK vs IV morphine, P=0.0951
- · Eye-Hand Coordination. Reduced performance accuracy on the adaptive tracking test, a measure of eye-hand coordination
 - Main effect, P=0.0011 OLINVYK vs IV morphine, P=0.1303
- · Neurocognitive function including impaired sedation and postural instability may have potentially important consequences in clinical care settings with the use of opioid medications, and consequent benefits in length of stay and other health economic outcomes
- · Other secondary outcome measures, including visual tracking and higher-order cognitive processing did not show statistical differences between OLINVYK and IV morphine
- · No serious adverse events were observed in the study, and adverse events were generally assessed as mild



Trevend* Please see Important Safety Information including BOXED WARNING at the end of presentation. Full Prescribing Information at www.OLINVYK.com

OLINVYK Safety Outcomes Study w/ Cleveland Clinic

Further characterizes potential respiratory, GI and cognitive outcomes

- · Open-label, multi-site study led by experts at Cleveland Clinic and Wake Forest Baptist Health
- N = ~200 adults undergoing major non-cardiac surgery
- Enrollment complete 2H 2022



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



Trevend* Please see Important Safety Information including BOXED WARNING at the end of presentation. Full Prescribing Information at www.OLINVYK.com.

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 mg¹

27 mg cumulative daily dose limit

Do not administer single doses greater than 3 mg



~\$100 / day (estimated avg cost across procedures)



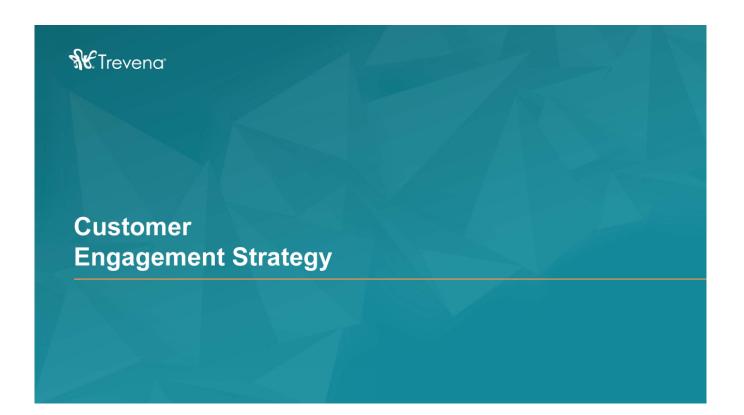
Please see Important Safety Information including BOXED WARNING at the end of presentation. Full Prescribing Information at www.QLINVYK.com. 1) For an initial dose, PCA = Patient-Controlled Analgesia

OLINVYK vs IV Morphine Health Economic Models

Published¹ and available to formulary committees **Representative Inputs: Key Outputs:** Ph3 trials Vomiting AE rates* Somnolence / sedation **HECON** O₂ saturation <90% >10x model Cost savings for hospitals4 \$8k nausea / vomiting2 Gov't sources / Cost of AEs \$28k critical resp event3 **Publications** +7 days hospital stay³ Due to improved patient outcomes OLINVYK **Drug cost** IV morphine







Targeted Account Launch

Health Care Practitioners (HCPs)

Anesthesiology, Colorectal, Critical Care physicians

- OLINVYK: NCE, distinct from IV morphine
- 1-3 min onset & no active metabolites
- Safety data in complex patients / surgeries

Targeted Accounts

Over 50% of IV opioid volume covered by customer facing team

- OLINVYK published safety data
- Published health economic / cost offset data



Treveng* Please see Important Safety Information including BOXED WARNING at the end of presentation. Full Prescribing Information at www.olinvyk.com.

Expanded Targets: ~150 Burn Center Accounts

Critical care / burn patients experience severe pain and are at higher risk for AEs

Targeted market opportunity

- ~40k burn-related hospitalizations each year across 150 burn centers in US
- Longer average in-patient stay: 8-9 days
- · Burn guidelines recommend use of IV opioids

Key considerations	OLINVYK attributes	
Need for rapid, long-lasting acute pain relief	1-3 minute onset of action ~3 hour duration	
Many patients have renal injury	No dose adjustment for patients with renal impairment	
Need to avoid dose-stacking	No active metabolites	



Please see Important Safety Information including BOXED WARNING at the end of presentation. Full Prescribing Information at www.OLINVYK.com.

OLINVYK: Significant Opportunity in Acute Pain Market

~45м patients (28M)Initial core focus: (9_M) 2032+ COM Patent

Patient & Procedure Risk

~15M days of therapy (initial focus) \$1.5B+ market opportunity*

Initial core focus

- · Hospitals / ambulatory surgical centers
- Burn (6-8 days) / critical care & colorectal (3-5 days)

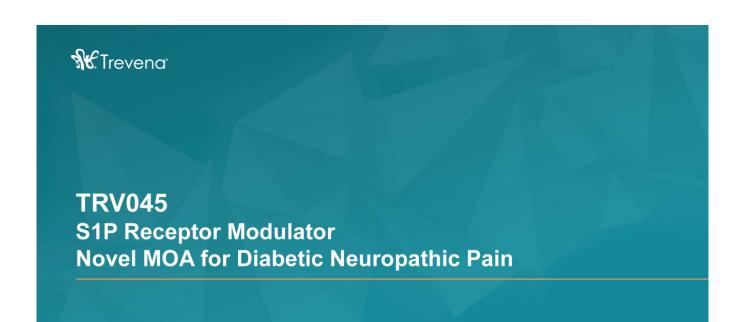
Expanded areas of focus

- New cognitive function / respiratory / GI data versus IV morphine
- · Additional HECON data focused on recovery time



Specialty Targets

Please see Important Safety Information including BOXED WARNING at the end of presentation. Full Prescribing Information at www.oLINVYK.com Source: Definitive Healthcare; American Hospital Association. "Assumes ~\$100 / day price for OLINVYK 2002 2002 composition of matter pattent expiration does not include potential patent extensions.



TRV045: Novel MOA for CNS Indications

Selective S1P₁R modulator with no lymphopenia – Phase 1 study complete

S1P₁ receptors are highly expressed on key CNS cell targets (astrocytes) involved in the perpetuation of neuroinflammation

Potential therapeutic role in seizures, epileptogenesis and pain signaling

Epilepsy

- · Neuroprotective effects3
- Modulates permeability of BBB, anti-inflammatory effects^{4,6}



Neuropathic pain

- · Inhibits pain sensation1
- · Inhibits excitatory neuronal signaling²



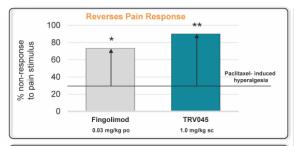
Selective for S1P-subtype 1 receptor, with more rapid receptor recycling (no lymphopenia)

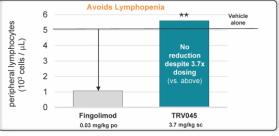
Potential to also avoid known safety issues associated with S1P receptor subtypes 2, 3, 4, 5: Including pulmonary, cardiac, and cancer-related effects⁵



1) Sim-Selley et al., Journal of Pharmacology & Experimental Therapeutics, 2018. 2) Sim-Selley et al., Journal of Neurochemistry, 2008. 3) Gol et al., European Journal of Pharmacoutical Sciences, 2017. 4) Leo et al., CNS & Neurological Disorders - Drug Targets, 2017. 5) Lymphopenia, bradycardia, vascular leakage, macular edema. BBB = blood-brain barrier. Images: flaticon.com. 6) Choi, et al. PNAS 2011

TRV045: Novel MOA, Selective S1PR





- In animals, TRV045 reversed neuropathic pain without immune-suppressing activity¹
- Novel mechanism with broad potential for CNS indications
 - Phase 1 study completed
 - Targeted proof-of-concept study initiated



1) CIPN mouse model: Paclitaxel 6 mg/kg, i.p. on Days 1, 3, 5, 7. Hyperalgesia measured as % non-response to 0.4 g Von Frey filament vs. basel 3 days of dosing. Data are mean ± s.e.m. n=5-7 mice/group. "p<0.05 or "p<0.01 vs. control"

TRV045 Phase 1 Study - Safety / Tolerability / PK

Randomized, double-blinded, placebo-controlled study 3-parts: single dose (n=53), food effect (n=27), multiple dose (n=9)

Well Tolerated

· Favorable tolerability profile with no SAEs

Target Exposure

Calculated free plasma concentrations exceeded targeted efficacy range¹

Attractive PK Profile

· Half-life consistent with anticipated once-daily dosing

Highly **Differentiated** · No lymphopenia and no reported cardiac / pulmonary / ophthalmologic AEs (AEs commonly associated with currently marketed S1P-targeted compounds)

Targeted CNS proof-of-concept study initiated

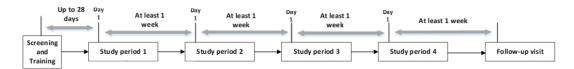


Trevend 1 Based on nonclinical measures of in vitro and in vivo PD

POC Study: Single-dose Target Engagement (Ph 1)

Enrollment completion expected mid-2023

- Design: Randomized, double-blind, placebo-controlled, four-way cross-over study (n~24)
 - Placebo or TRV045 (50/150/300mg)



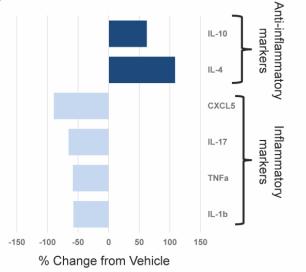
Pharmacodynamic Endpoint	Test and Outcome	Pain Type
Cold Pressor	Pain detection (PDT), pain tolerance (PTT), post-test VAS	Nociceptive (thermal)
Electrical Pain	Burst: PDT, PTT, PT-VAS Stair: PDT, PTT, PT-VAS	Nociceptive (electrical)
Conditioned Pain Modulation Resp	Change in elec. stair pre- / post- cold pressor test: PDT, PTT	Nociceptive (central mod)
Heat Pain	Volar forearm: PDT Back: PDT	Nociceptive (thermal, inflam)
Pressure Pain	Gastrocnemius tourniquet: PDT, PTT	Nociceptive (mechanical)
Secondary Allodynia (post-capsaicin)	Volar forearm: PDT	Neuropathic (central sens)



Effect of TRV045 on Cytokine / Chemokine Release

Anti-inflammatory actions on astrocytes in cell culture

- · Methods:
 - Primary mouse astrocytes in monolayer cell culture; incubated for 24 hrs w/ 5 μM TRV045
 - Panel of 17 cytokines / chemokines * assessed by ELISA
- · Main Findings:
 - Net anti-inflammatory action on astrocyte cytokine / chemokine release in culture
 - Increase in release of all anti-inflammatory cytokines measured (P<0.05 v vehicle)
 - Reduction in release of all inflammatory cytokines measured (P<0.05 v vehicle)

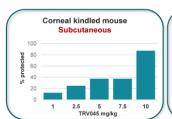


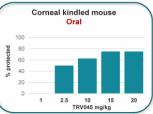


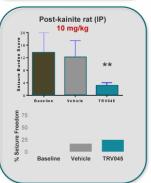
* Full cytokine / chemokine panel studied: (Inflammatory markers) – TNF α , IL-6, IL-1b, IL-17, IL-23, IL-33, CCL1, CCL2, CCL20, CXCL5, CXCL12, CX3CL1, IFN γ , Csf2, Substance P; (Anti-inflammatory markers) – IL-10, IL-4. [Trevena, Inc., data on file]

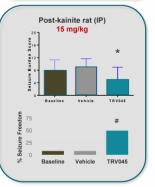
TRV045 Demonstrates Efficacy in Nonclinical Epilepsy Models

- NIH-supported Epilepsy Therapy Screening Program
- · Acute seizure protection in max. electroshock model
 - Replicated in 3 independent experiments using either subcutaneous or oral administration
- Efficacy demonstrated in two different preclinical models of epilepsy (data shown at right)
 - Corneal-kindled seizure model (SC, PO)
 - Dose-dependent protection in seizure risk across two studies
 - Post-kainite spontaneous recurrent seizure model (IP*)
 - Dose-dependent reduction in seizure burden and increase in seizure freedom endpoints across two studies











 * p<0.05 v vehicle, ** p<0.05 v baseline; Wilcoxon rank sum # p<0.05 v baseline and vehicle; Fisher's exact test



TRV250: New MOA for Acute Treatment of Migraine

TRV734: Maintenance Therapy for Opioid Use Disorder

TRV250: New MOA for Acute Treatment of Migraine

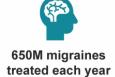
Delta receptor: Untapped potential in CNS space

Migraine represents a large market opportunity; total migraine drug market = ~\$3.5B

Delta receptors have unique distribution throughout the brain

Play important role in regulation of pain, mood, and anxiety

Every year in the US1:





1.2M ER visits due to migraines

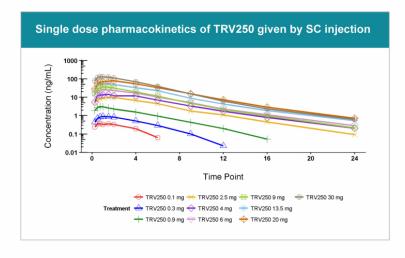
- 20-30% of migraine sufferers do not respond to / cannot tolerate the market-leading triptan drug class
- Approx. 50% of migraineurs also suffer from anxiety²



) Data from Decision Resources, Pharmacor migraine market landscape and forecast 2018. 2) Moven et al., J Neurol Neurosurg Psychiatry, 2018

TRV250: Well-Tolerated in Ph1 Healthy Volunteer PK Study

Subcutaneous doses up to 30 mg studied; no SAEs observed



Well tolerated, with no SAEs across broad range of doses

Predictable PK: dose-proportional between 0.1 mg to 30 mg SC

Half-life consistent across all doses

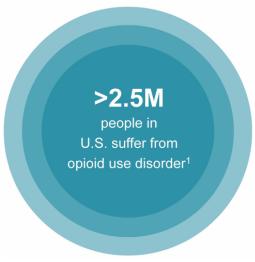
No EEG findings observed in any subject

IND-enabling activities initiated for new oral dose form



TRV734: Maintenance Therapy for Opioid Use Disorder

Selective agonism at μ receptor: nonclinical evidence of improved tolerability



Ongoing collaboration with National Institute on Drug Abuse (NIDA)

NIDA study demonstrated reduced drug-seeking behavior in animal model of relapse²

NIDA-funded proof-of-concept patient study initiated

- · Randomized, double-blind, placebo- and positive-controlled study
- N = ~50 opioid-dependent patients undergoing stable methadone maintenance therapy
- · Primary endpoint: suppression of withdrawal symptoms as measured by the Subjective Opioid Withdrawal Scale
- · Secondary outcomes: assessments of safety, tolerability, and neurocognitive changes



Trevend 1) Center for Behavioral Health Statistics and Quality. 2) NIDA data on file.

Trevena: Innovative CNS Company



IV OLINVYK: Differentiated profile

NCE approved for the management of acute pain in adults

Launch in Q1 2021; additional supportive studies vs. IV morphine with near-term data



Large market, targeted launch

45M+ US hospital patients; 9M procedures is initial core focus

\$1.5B+ market opportunity for core focus



TRV045: Selective S1PR modulator Novel candidate for CNS disorders (with potential broader applicability)

Phase 1 study completed; proof-of-concept study initiated



Novel CNS pipeline

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



Solid financial position

\$40.4M cash / equivalents / marketable securities @ Q3 \$8M Registered Direct financing in November 2022



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 www.oLinvyk.com. NCE = New Chemical Entity, MOA = Mechanism of Action; NIH = National Institutes of Health;



OLINVYK: Distinct From IV Morphine / Hydromorphone

OLINVYK H₃CO,



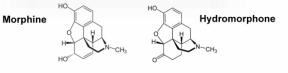
Studied in >1,900 individuals



IV morphine included as active comparator



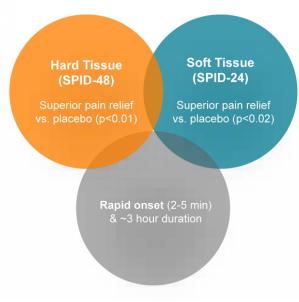
NCE with 2032+ COM patent1





Please see Important Safety Information including BOXED WARNING at the end of presentation. Full Prescribing Information at www.OLINVYK.com. 1) 2032 composition of matter patent expiration does not include potential patent extensions.

OLINVYK: IV Opioid Efficacy and Rapid Onset



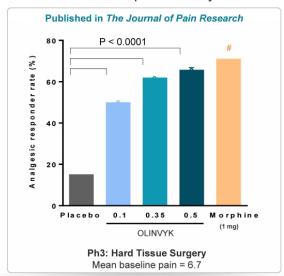
- · Efficacy achieved in hard tissue & soft tissue models
- Rapid onset: perceptible pain relief within 1-3 minutes
- OLINVYK efficacy data in peer-reviewed journals The Journal of Pain Research¹ and Pain Practice²

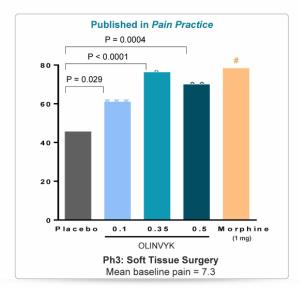


Please see Important Safety Information including BOXED WARNING at the end of presentation. Full Prescribing Information at www.OLINVYK.com. 1) Viscusi ER et al. J Pain Res. 2019;12:927–943. Published 2019 Mar 11. 2) Singla NK et al. Pain Pract. 2019;19:715-731. Published 2019 Jun 04.

Primary Efficacy Endpoint Achieved in Two Pivotal Studies

OLINVYK achieved IV opioid efficacy







Please see Important Safety Information including BOXED WARNING at the end of presentation. Full Prescribing Information at www.OLINVYK.com.

These analyses were the prespecified primary endpoints for both studies. Section 14 of the Prescribing Information includes the SPID-24 and SPID-24 and SPID-46 efficacy analyses that were the basis for approval. Viscusi ER et al. J Pain Res. 2019;12-927–943. Published 2019 Mar 11. Singla NK et al. Pain Pract. 2019;19:715-731. Published 2019 Jun 04. #p < 0.05 vs. placebo (unadjusted).

OLINVYK: IV Opioid Efficacy in 2 Phase 3 RCTs

10 Placebo (n=79) OLINVYK 0.1mg (n=76) OLINVYK 0.35mg (n=79) OLINVYK 0.5mg (n=79) 9 8 6 5 3 2 0 0 4 8 12 16 20 24 28 32 36 40 44 48

Study 1 (Orthopedic - Hard Tissue)

3 PCA regimens studied (0.1, 0.35, 0.5 mg) vs. placebo; all doses P<0.01 vs. placebo

Outcome	0.1 mg	0.35 mg	0.5 mg	Placebo
% Completed	83%	87%	84%	60%
% D/C LOE	9%	4%	5%	34%
% Rescue Meds	41%	20%	17%	77%

10 م 9 Placebo (n=81) OLINVYK 0.1mg (n=77) OLINVYK 0.35mg (n=80) OLINVYK 0.5mg (n=80) 8

12 Time (hours)

Study 2 (Plastic Surgery – Soft Tissue)

3 PCA regimens studied (0.1, 0.35, 0.5 mg) vs. placebo; 0.35 / 0.5 mg doses P<0.02 vs. placebo

Outcome	0.1 mg	0.35 mg	0.5 mg	Placebo
% Completed	86%	90%	87%	74%
% D/C LOE	11%	3%	5%	22%
% Rescue Meds	31%	21%	18%	49%



7

6

2 0

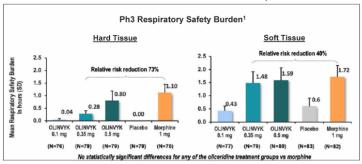
Average NRS Pain Score

Please see Important Safety Information including BOXED WARNING at the end of presentation. Full Prescribing Information at www.OLINVYK.com.

Robust Assessment of Respiratory Safety in Phase 3 RCTs

Data included in AMCP dossier used in formulary review

- Prespecified secondary endpoint: Respiratory Safety Burden (RSB)
 - Calculated based on incidence and cumulative duration of respiratory safety events
- Full characterization of respiratory safety profile has been made available to HCPs and formulary decision makers
 - Data can be found in OLINVYK AMCP dossier and published literature



Ph3 Res (Compone					
Hard Tissue					
		Demand Dose			
Orthopedic Surgery- Bunionectomy Study	Placebo (N=79)	0.1 mg (N=76)	0.35 mg (N=79)	0.5 mg (N=79)	Morphine 1 mg (N=76)
Components of the respiratory saf			(11-15)	(11-15)	(11-10)
≥1 respiratory safety event, n (%)	0	1 (1.3)	7 (8.9)	11 (13.9)	14 (18.4)
P-value vs morphine	0.006	0.002	0.050	0.364	_
Duration of event, mean hours (SD)	0 (N/E)	2.88 (N/E)	3.21 (2.24)	5.72 (7.44)	5.96 (4.67
P-value vs morphine	0.102	0.140	0.260	0.186	
Respiratory safety event measures		0.140	0.200	0.100	
Oxygen saturation <90%, n (%)	1 (1.3)	3 (3.9)	8 (10.1)	11 (13.9)	15 (19.7)
P value vs morphine	0.005	0.006	0.100	0.352	-
Respiratory rate ≤8 bpm, n (%)	0	0	1 (1.3)	1 (1.3)	4 (5.3)
P value vs morphine	0.956	0.956	0.188	0.185	-
Sedation (MRPSS ≥3), n (%)	10 (2.7)	14 (18.4)	16 (20.3)	13 (16.5)	15 (19.7)
P value vs morphine	0.242	0.838	0.926	0.610	-
Soft Tissue			Demand Dos	se	
		OLINVYK Morph		Morphine	
Plastic Surgery- Abdominoplasty Study	Placebo (N=83)	0.1 mg (N=77)	0.35 mg (N=79)	0.5 mg (N=80)	1 mg (N=82)
Components of the respiratory safe					
≥1 respiratory safety event, n (%)	5 (6.0)	6 (7.8)	17 (21.5)	18 (22.5)	22 (26.8)
Odds ratio vs morphine	0.15	0.19	0.61	0.68	_
P value vs morphine	0.0003	0.0007	0.20	0.32	
Duration of event, mean hours (SD)	9.88 (7.0)	5.51 (1.91)	6.88 (5.66)	7.07 (6.56)	6.40 (5.09)
P value vs morphine	0.52	0.29	0.78	0.76	_
Respiratory safety event measures					
Oxygen saturation <90%, n (%)	7 (8.4)	6 (7.8)	15 (19.0)	16 (20.0)	20 (24.4)
P value vs morphine	0.02	0.01	0.57	0.76	-
Respiratory rate ≤8 bpm, n (%)	1 (1.2)	0	4 (5.1)	6 (7.5)	8 (9.8)
P value vs morphine	0.054	0.95	0.38	0.84	-
Sedation (MRPSS ≥3), n (%)	15 (18.1)	8 (10.4)	19 (24.1)	18 (22.5)	21 (25.6)

bpm = breaths per minute; MRPSS = Moline-Roberts Pharmacologic Sedation Scale

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

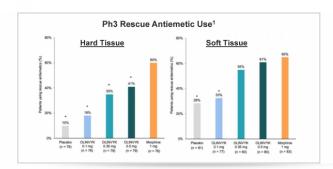
Trevena

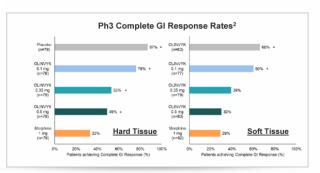
Please see Important Safety Information including BOXED WARNING at the end of presentation. Full Prescribing Information at www.OLINVYK.com.

1) Figure 2-8, Section 2.2, OLINVYK Evidence Dossier for Formulary Consideration. 2) Figures 3-4 and 3-8, Section 3.1, OLINVYK Evidence Dossier for Formulary Consideration

Robust Assessment of GI Tolerability in Phase 3 RCTs

Data included in AMCP dossier used in formulary review





- Phase 3 pivotal trials included measurements of nausea / vomiting rates and rescue antiemetic use
- Additional exploratory post-hoc analysis was conducted using a "complete GI response" endpoint³
- Full characterization of GI tolerability has been made available to HCPs and formulary decision makers
 - Data can be found in OLINVYK AMCP dossier and published literature

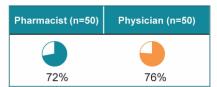
Please see Important Safety Information including BOXED WARNING at the end of presentation. Full Prescribing Information at www.oLINVYK.com.



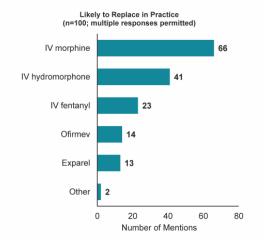
Trevena P < 0.05 vs. morphine 1) Figure 2-10, Section 2.2, OLINVYK Evidence Dossier for Formulary Consideration. 2) Figure 2-11, Section 2.2, OLINVYK Evidence Dossier for Formulary Consideration. 3) GI complete response defined as the proportion of patients who did not experience the AE of vomiting and did not use rescue antiemetic medication throughout their allocated treatment period in the study

Positive Feedback from Formulary Stakeholders¹

~75% of formulary stakeholders find OLINVYK's published data clinically meaningful:2



Majority of stakeholders view IV morphine as likely to be replaced by OLINVYK:





Please see Important Safety Information including BOXED WARNING at the end of presentation. Full Prescribing Information at www.OLINVYK.com
1) Qualitative Pricing research, Charles River Associates, April 2020. 2) "Are the improvements in respiratory safety events and GI tolerability clinically meaningful?" Based on OLINVYK Ph3 clinical trial data.

Omni-channel Approach for HCP Engagement

Communication across a full range of channels to maximize reach and impact





Field directed: live, virtual & email



HCP social media



Professional Society Meetings & Congresses



Olinvyk.com



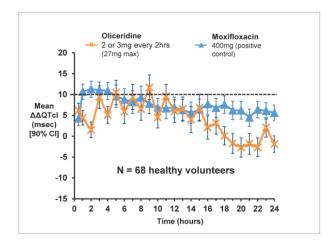
Virtual "on demand" Medical Education programs



Trevend* Please see Important Safety Information including BOXED WARNING at the end of presentation. Full Prescribing Information at www.oLINVYK.com.

No Accumulation Despite Repeated Dosing

Multi-Dose tQT Study



Key results

- No accumulation through 24 hrs Mean QTcl <10ms at 22 of 24 points
- No categorical QTc outliers \triangle >60 ms; >500 ms absolute
- Well tolerated, no SAEs*
 92% reached max daily dose

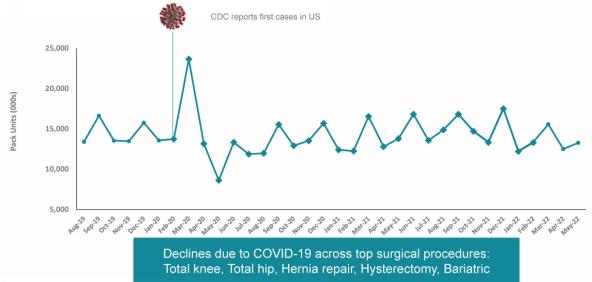
*The effect on QT prolongation at total cumulative daily doses >27 mg has not been studied in a thorough QT study. Total cumulative daily doses exceeding 27 mg per day may increase the risk for QTc interval prolongation. Therefore, the cumulative total daily dose of OLINVYK should not exceed 27 mg.



Please see Important Safety Information including BOXED WARNING at the end of presentation. Full Prescribing Information at www.OLINVYK.com. 3 subjects not dosed due to lack of venous access: 1 discontinuation due to a non-serious adverse event (asymptomatic non-sustained ventricular tachycardia) with conflounding pytokalemia and no meaningful of produpation during dosing, 1 subject completed dosing but not evaluable due to equipment mathurclud.

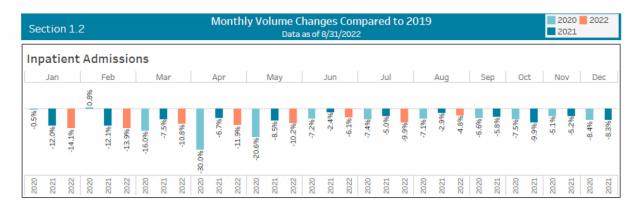
Stable IV Opioid Market Performance

Despite the 20% decline in elective surgeries, IV opioid volume remained stable



Trevena SOURCE: IQVIA DDD Data May 2022

Hospital Inpatient Visits Below Pre-Pandemic Levels



- Monthly Volume Changes in 2022 remain below 2019 levels for each month of the year.
- Through August each month in 2022 has shown a decline greater than was seen in 2021

Trevena Source: National Patient and Procedure Volume Tracker - Strata Decision Technology

Diabetic Neuropathic Pain

Diabetic neuropathic pain (DNP) represents a large market opportunity

- 30M+ US adults with diabetes (500M+ worldwide)1,2
- DNP affects up to 25% of patients with diabetes^{3,8}
- Significant need for efficacious medicines for DNP 4-5
 - > Only ~50% of patients experience a clinical response with currently approved therapies
- Direct costs for patients with DNP were ~4x that of patients with only diabetes (no DNP)⁶





1) IDF, www.diabetesatlas.org 2) Economic Costs of Diabetes in the U.S. in 2017, Diabetes Care 2018;41:917–928. 3) Shillo et al., Current Diabetes Reports, 2019 4) Pritchett, YL et al. Pain Medicine 2007 5) Freeman R et al., Diabetes Care 2008 6) Sadosky et. al., J Diabetes Complications 2015. 7) Datamonitor 8) Hicks, et al. Current Diabetes Reports, 2019

Epilepsy

One of the most common neurological diseases in the world1

Disease Overview

- Epilepsy is a chronic disorder characterized by recurrent seizures¹.
- Epilepsy is defined as having two or more unprovoked seizures separated by at least 24 hours or after one seizure with a high risk of more².
 - A seizure is a sudden surge of electrical activity in the brain caused by complex chemical changes that occur in nerve cells³.
 - Usually, there is a balance of cells that either encourage or stop other brain cells from sending messages³.
 - A seizure occurs when there may be too much or too little electrical activity in the brain causing an imbalance³.
 - Seizures are a symptom of many different disorders that can affect the brain³.

Market Opportunity

- Nearly 50 million people suffer from epilepsy worldwide, including 3 million adults and 470,000 children in the U.S^{1,4,5}.
- 150,000 new cases of epilepsy are reported in the United States each year⁶.
- According to the CDC, 56% of adults living with diagnosed epilepsy continue to have seizures⁷.

1. World Health Organization. Epilepsy. https://www.who.int/news-room/fact-sheets/detail/epilepsy. Accessed November, 2021. 2. Epilepsy Foundation. About Epilepsy: The Basics. https://www.epilepsy.com/learn/about-epilepsy-basics./what-seizure. Accessed November, 2021. 3. Epilepsy Foundation. What is a Seizure? https://www.epilepsy.com/learn/about-epilepsy-basics/what-seizure. Accessed November, 2021. 4. CIRE Epilepsy. Meth. 5. Zack MM, Kobba R. National and state estimates of the numbers of adults and children with active epilepsy—basics/what-seizure. Accessed November, 2021. 7. Tan N, Borring M, Koba W, Zack MM, Croft JB. Active Epilepsy-Poundation. What is Epilepsy? https://www.epilepsy.com/learn/about-epilepsy-basics/what-epilepsy-Accessed November, 2021. 7. Tan N, Borring M, Koba W, Zack MM, Croft JB. Active Epilepsy and Seizure Control in Adults — United States, 2013 and 2015. MMWR Morb Mortal Wkly Rep 2018; 67:437–442. DOI: http://dx.doi.org/10.15585/mmwr.mm6715a1





WARNING: ADDICTION, ABUSE, AND MISUSE; LIFE-THREATENING RESPIRATORY DEPRESSION: NEONATAL OPIOID WITHDRAWAL SYNDROME: and RISKS FROM CONCOMITANT USE WITH BENZODIAZEPINES OR OTHER CENTRAL NERVOUS SYSTEM (CNS) DEPRESSANTS

Addiction, Abuse, and Misuse

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 before prescribing OLINVYK, and monitor all patients regularly for the development of

Life-Threatening Respiratory Depression

Serious, life-threatening, or fatal respiratory depression may occur with use of OLINVYK. Monitor for respiratory depression, especially during initiation of OLINVYK or following a dose increase.

Neonatal Opioid Withdrawal Syndrome

Prolonged use of OLINVYK during pregnancy can result in neonatal opioid withdrawal syndrome, which may be life-threatening if not recognized and treated, and requires management according to protocols developed by neonatology experts. If opioid use is required for a prolonged period in a pregnant woman, advise the patient of the risk of neonatal opioid withdrawal syndrome and ensure that appropriate treatment will be available.

Risk From Concomitant Use With Benzodiazepines or Other CNS Depressants

Concomitant use of opioids with benzodiazepines or other CNS depressants, including alcohol, may result in profound sedation, respiratory depression, coma, and death. Reserve concomitant prescribing for use in patients for whom alternative treatment options are inadequate; limit dosages and durations to the minimum required; and follow patients for signs and symptoms of respiratory depression and sedation.

INDICATIONS AND USAGE

OLINVYK is a new chemical entity 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, even at recommended doses, 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, as total daily doses greater than 27 mg may increase the risk for QTc interval prolongation.

CONTRAINDICATIONS

OLINVYK is contraindicated in patients with:

- Significant respiratory depression
 Acute or severe bronchial asthma in an unmonitored setting or in the 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.



WARNINGS AND PRECAUTIONS

- Prolonged use of opioids 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 OLINVYK for a prolonged period of the risk of neonatal opioid withdrawal syndrome and ensure that appropriate treatment will be available.
- Profound sedation, respiratory depression, coma, and death may result from the concomitant use of OLINYYK with benzodiazepines 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.
- 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, 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.
- 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 nations
- 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 CO₂ retention, such as those
 with evidence of increased intracranial pressure or brain tumors, as a reduction in respiratory drive and the
 resultant CO₂ 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.
- 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 CO₂ retention, such as those
 with evidence of increased intracranial pressure or brain tumors, as a reduction in respiratory drive and the
 resultant CO₂ 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 \geq 10%) adverse reactions in Phase 3 controlled clinical trials were nausea, vomiting, dizziness, headache, constipation, pruritus, and hypoxia.

PLEASE see www.OLNVYK.com for full prescribing information including BOXED warning and important safety information



Forward-Looking Statements

To the extent that statements contained in this presentation are not descriptions of historical facts regarding Trevena, Inc. (the "Company" or "we"), they are forward-looking statements reflecting management's current beliefs and expectations. Forward-looking statements are subject to known and unknown risks, uncertainties, and other factors that may cause our or our industry's actual results, levels of activity, performance, or achievements to be materially different from those anticipated by such statements. You can identify forward-looking statements by terminology such as "anticipate," "believe," "estimate," "expect," "intend," "may," "might," "plan," "objective," "predict," "project," "suggest," "target," "potential," "will," "would," "could," "should," "continue," "ongoing," or the negative of these terms or similar expressions. Forward-looking statements contained in this presentation include, but are not limited to, (i) statements regarding the timing of anticipated clinical trials for our product candidates; (ii) the timing of receipt of clinical data for our product candidates; (iii) our expectations regarding the potential safety, efficacy, or clinical utility of our product candidates; (iv) the size of patient populations targeted by our product candidates and market adoption of our potential drugs by physicians and patients; (v) the timing or likelihood of regulatory filings and approvals; and (vi) our cash needs.

Actual results may differ materially from those indicated by such forward-looking statements as a result of various important factors, including: the commercialization of any approved drug product, the status, timing, costs, results and interpretation of our clinical trials or any future trials of any of our investigational drug candidates; the uncertainties inherent in conducting clinical trials; expectations for regulatory interactions, submissions and approvals, including our assessment of the discussions with the FDA or other regulatory agencies about any and all of our programs; uncertainties related to the commercialization of OLINVYK; available funding; uncertainties related to our intellectual property; uncertainties related to the ongoing COVID-19 pandemic, other matters that could affect the availability or commercial potential of our therapeutic candidates; and other factors discussed in the Risk Factors set forth in our 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 we make with the SEC from time to time. In addition, the forward-looking statements included in this presentation represent our views only as of the date hereof. We anticipate that subsequent events and developments may cause our views to change. However, while we may elect to update these forward-looking statements at some point in the future, we specifically disclaim any obligation to do so, except as may be required by law.



Trevena Overview

Focused on Innovative Medicines For CNS Disorders

Detailed in Following Slides

Olinvyk IV*

Approved NCE for the management of acute pain in adults*

Proven track record of Trevena internal discovery and development through approval

S1P Modulator Program

Novel S1P₁R modulator with differentiated MOA (lead asset: TRV045)

Initiated POC study for CNS disorders

Innovative CNS Pipeline

Based on Nobel-prize winning biased ligand technology

NCEs addressing acute / neuropathic pain, epilepsy, acute migraine, OUD

* 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 www.oLINVYK.com.



TRV045: Innovative Clinical-Stage S1P₁R Modulator



S1PR: Validated target for multiple blockbusters (fingolimod / siponimod / ozanimod / ponesimod) **TRV045:** Unique profile (S1P₁R specific, receptor recycling, no lymphopenia) for new indications



Initial investigation for orphan / non-orphan **epilepsy** and **non-opioid chronic pain**Broad potential application in CNS disorders, autoimmune disease and inflammatory disease



Strong MOA Support Nonclinical models demonstrated positive efficacy outcomes, avoiding known S1PR safety issues **NIH collaboration**: Epilepsy Therapy Screening Program & Preclinical Screening Pain Platform



Novel Family of S1PR Modulators

New chemical entity; potent and selective for subtype 1; developed in-house with strong IP Platform of S1PR backup opportunities for longer term value creation



Near-Term Value Drivers

CNS target engagement POC study - enrollment completion expected mid-2023



S1P₁ Receptor - Novel Target for CNS Indications

S1P₁ receptors are highly expressed on key CNS cells involved in neuroinflammation Potential therapeutic role in seizures, epileptogenesis and pain signaling

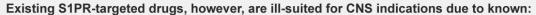
Epilepsy

- · Neuroprotective effects3
- · Modulates BBB permeability, anti-inflammatory effects4,5



Neuropathic pain

- · Inhibits pain sensation1
- · Inhibits excitatory neuronal signaling²



Lymphopenia Cardiac AEs

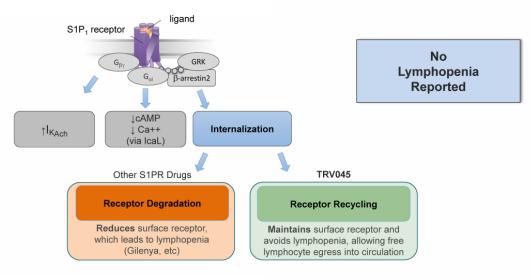
Pulmonary AEs Ophthalmologic AEs



1) Sim-Selley et al., Journal of Pharmacology & Experimental Therapeutics, 2018. 2) Sim-Selley et al, Journal of Neurochemistry, 2008. 3) Gol et al., European Journal of Pharmacoutical Sciences, 2017. 4) Leo et al., CNS & Neurological Disorders - Drug Targets, 2017. 5) Choi, et al. PNAS 2011.

TRV045 MOA (1): Rapid Receptor Recycling

Maintains (rather than degrades) S1P receptors on cell surface



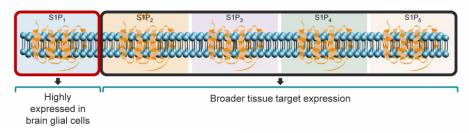
Trevena

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 (S1P₁₋₅)
- TRV045 is potent and selective for S1P subtype-1 receptor
 - S1P₁R is highly expressed on astrocytes / other glial cells and implicated in brain inflammation

Highly expressed in key CNS / brain cells





Adapted from: Chun, J, et al., Drugs (2021) 81:207–231

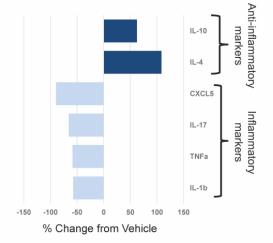
TRV045 MOA (3): Anti-Inflammatory Effect

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 anti-inflammatory cytokines measured1
 - Reduced all inflammatory cytokines measured1
- Method: Primary mouse astrocytes in monolayer cell culture, incubated for 24hrs w/ 5 μ M TRV045
 - 17 cytokines / chemokines² assessed by ELISA

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

(epilepsy, pain, neuropsych / neurodegen diseases)





P<0.05 v vehicle
 Full cytokine / chemokine panel studied: (Inflammatory markers) – TNFa, IL-6, IL-15, 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: Broad Potential Applicability

Unique MOA Produces Compelling Profile (Ph 1 and nonclinical data)

Potent and selective S1P₁R target engagement anti-inflammatory and nociceptive effects

No lymphopenia potentially limits other S1PR modulators

May avoid AEs associated with approved S1PR drugs cardiac / pulmonary / ophthalmologic / vascular

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)



DPN: diabetic neuropathic pain; CIPN: chemotherapy-induced peripheral neuropathy; MS: multiple sclerosis; RA: rheumatoid arthritis; MDD: major depressive disorder; AD: Alzheimer's disease; PD: Parkinson's disease

TRV045 Phase 1 Data - Safety / Tolerability / PK

Randomized, double-blinded, placebo-controlled study 3-parts: single dose (n=53), food effect (n=27), multiple dose (n=9)

Well Tolerated

· Favorable tolerability profile with no SAEs

Target Exposure

Free plasma concentrations exceed targeted efficacy range¹

Attractive PK Profile

· Half-life consistent with anticipated once-daily dosing

Highly Differentiated

 No lymphopenia and no cardiac / pulmonary / ophthalmologic AEs (AEs commonly associated with certain currently marketed S1P-targeted compounds)

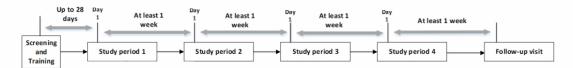


¹ Based on nonclinical measures of in vitro and in vivo PD

POC Study: Single-dose Target Engagement (Ph 1)

Enrollment completion expected mid-2023

- Design: Randomized, double-blind, placebo-controlled, four-way cross-over study (n~24)
 - Placebo or TRV045 (50/150/300mg)



Pharmacodynamic Endpoint	Test and Outcome	Pain Type
Cold Pressor	Pain detection (PDT), pain tolerance (PTT), post-test VAS	Nociceptive (thermal)
Electrical Pain	Burst: PDT, PTT, PT-VAS Stair: PDT, PTT, PT-VAS	Nociceptive (electrical)
Conditioned Pain Modulation Resp	Change in elec. stair pre- / post- cold pressor test: PDT, PTT	Nociceptive (central mod)
Heat Pain	Volar forearm: PDT Back: PDT	Nociceptive (thermal, inflam)
Pressure Pain	Gastrocnemius tourniquet: PDT, PTT	Nociceptive (mechanical)
Secondary Allodynia (post-capsaicin)	Volar forearm: PDT	Neuropathic (central sens)



TRV045

Epilepsy and Related Indications

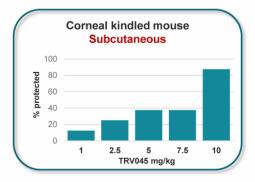


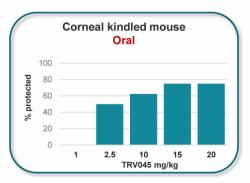
TRV045: Dose Dependent Seizure Protection

Corneal-kindled Seizure Model

TRV045 demonstrated

dose-dependent protection in seizure risk
in corneal-kindled seizure models



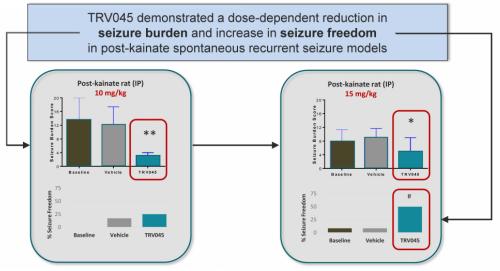




Data from NIH-supported Epilepsy Therapy Screening Program

TRV045: Improves Seizure Burden / Freedom

Post-kainate Spontaneous Recurrent Seizure Model



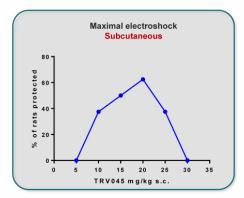


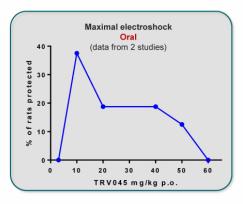
* p<0.05 v vehicle, ** p<0.05 v baseline; Wilcoxon rank sum # p<0.05 v baseline and vehicle; Fisher's exact test Data from NIH-supported Epilepsy Therapy Screening Program

TRV045: Protection from Acute Seizures

Maximal Electroshock Model

TRV045 demonstrated protection from acute seizures in three replicated experiments







Data from NIH-supported Epilepsy Therapy Screening Program

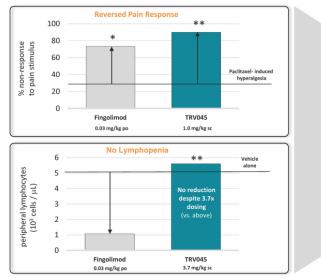
TRV045

Non-opioid Pain Indications



TRV045 Efficacy in Chronic Pain Models (w/ no Lymphopenia)

Mouse chemotherapy-induced peripheral neuropathy (CIPN) model



Reversed neuropathic pain...

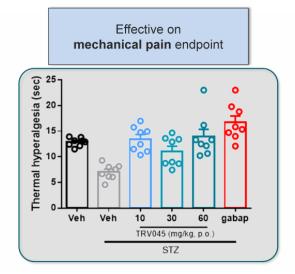
...with no lymphopenia

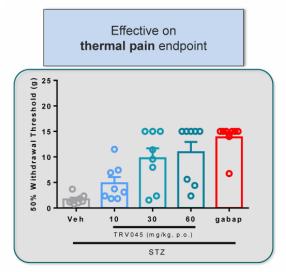


1) CIPN mouse model: Paclitaxel 6 mg/kg, i.p. on Days 1, 3, 5, 7. Hyperalgesia measured as % non-response to 0.4 g Von Frey filament vs. baseline, tested 30' after dosing on Day 13. Lymphocytes measured after 3 days of dosing. Data are mean ± s.e.m. n=5-7 mice/group. *p<0.05 or **p<0.01 vs. control

TRV045: Reversed Hyperalgesia

Rat diabetic peripheral neuropathic pain (STZ) model







TRV045: Innovative Clinical-Stage S1P₁R Modulator



S1PR: Validated target for multiple blockbusters (fingolimod / siponimod / ozanimod / ponesimod) **TRV045:** Unique profile (S1P₁R specific, receptor recycling, no lymphopenia) for new indications



Initial investigation for orphan / non-orphan **epilepsy** and **non-opioid chronic pain**Broad potential application in CNS disorders, autoimmune disease and inflammatory disease



Strong MOA Support Nonclinical models demonstrated positive efficacy outcomes, avoiding known S1PR safety issues **NIH collaboration**: Epilepsy Therapy Screening Program & Preclinical Screening Pain Platform



Novel Family of S1PR Modulators

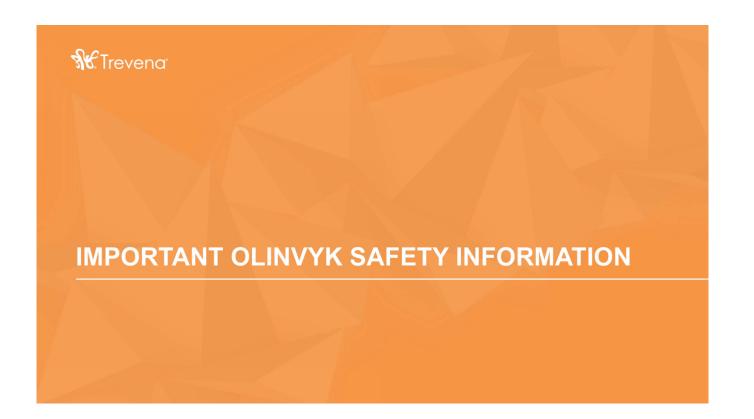
New chemical entity; potent and selective for subtype 1; developed in-house with strong IP Platform of S1PR backup opportunities for longer term value creation



Near-Term Value Drivers

CNS target engagement POC study - enrollment completion expected mid-2023





WARNING: ADDICTION, ABUSE, AND MISUSE; LIFE-THREATENING RESPIRATORY DEPRESSION: NEONATAL OPIOID WITHDRAWAL SYNDROME: and RISKS FROM CONCOMITANT USE WITH BENZODIAZEPINES OR OTHER CENTRAL NERVOUS SYSTEM (CNS) DEPRESSANTS

Addiction, Abuse, and Misuse

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 before prescribing OLINVYK, and monitor all patients regularly for the development of

Life-Threatening Respiratory Depression

Serious, life-threatening, or fatal respiratory depression may occur with use of OLINVYK. Monitor for respiratory depression, especially during initiation of OLINVYK or following a dose increase.

Neonatal Opioid Withdrawal Syndrome

Prolonged use of OLINVYK during pregnancy can result in neonatal opioid withdrawal syndrome, which may be life-threatening if not recognized and treated, and requires management according to protocols developed by neonatology experts. If opioid use is required for a prolonged period in a pregnant woman, advise the patient of the risk of neonatal opioid withdrawal syndrome and ensure that appropriate treatment will be available.

Risk From Concomitant Use With Benzodiazepines or Other CNS Depressants

Concomitant use of opioids with benzodiazepines or other CNS depressants, including alcohol, may result in profound sedation, respiratory depression, coma, and death. Reserve concomitant prescribing for use in patients for whom alternative treatment options are inadequate; limit dosages and durations to the minimum required; and follow patients for signs and symptoms of respiratory depression and sedation.

INDICATIONS AND USAGE

OLINVYK is a new chemical entity 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, even at recommended doses, 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, as total daily doses greater than 27 mg may increase the risk for QTc interval prolongation.

CONTRAINDICATIONS

OLINVYK is contraindicated in patients with:

- Significant respiratory depression
 Acute or severe bronchial asthma in an unmonitored setting or in the 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.



WARNINGS AND PRECAUTIONS

- Prolonged use of opioids 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 OLINVYK for a prolonged period of the risk of neonatal opioid withdrawal syndrome and ensure that appropriate treatment will be available.
- Profound sedation, respiratory depression, coma, and death may result from the concomitant use of OLINYYK with benzodiazepines 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.
- 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, 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.
- 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 nations
- 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 CO₂ retention, such as those
 with evidence of increased intracranial pressure or brain tumors, as a reduction in respiratory drive and the
 resultant CO₂ 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.
- 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 CO₂ retention, such as those
 with evidence of increased intracranial pressure or brain tumors, as a reduction in respiratory drive and the
 resultant CO₂ 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 \geq 10%) adverse reactions in Phase 3 controlled clinical trials were nausea, vomiting, dizziness, headache, constipation, pruritus, and hypoxia.

PLEASE see www.OLNVYK.com for full prescribing information including BOXED warning and important safety information

Trevena Enrolls First Subject in TRV045 Proof-of-Concept Trial Evaluating S1PR Mechanism of Action and Target Engagement

New Phase 1 clinical study designed to build on nonclinical evidence of anti-inflammatory signaling and potential disease-modifying effect of TRV045 in the treatment of epilepsy and other CNS disorders

TRV045, a novel S1P receptor modulator, is highly specific for S1PR subtype 1 and reported no lymphopenia in a prior Phase 1 clinical study

CHESTERBROOK, Pa., Jan. 9, 2023 (GLOBE NEWSWIRE) – **Trevena, Inc. (Nasdaq: TRVN)**, a biopharmaceutical company focused on the development and commercialization of novel medicines for patients with central nervous system (CNS) disorders, today announced the enrollment of the first subject in a Phase 1 proof-of-concept study of TRV045, a novel sphingosine-1-phosphate receptor modulator selective for the S1P receptor subtype 1.

The Phase 1 clinical study is a randomized, double-blind, placebo-controlled, four-way cross-over study designed to test the mechanism of action and measure evidence of target engagement for TRV045. The study will use a validated set of analgesic tests to evaluate potential central and peripheral nervous system effects and to provide insight into the potential anti-inflammatory actions of TRV045. Twenty-four healthy volunteers will be enrolled and each subject will receive three different single doses of TRV045 (50mg, 150mg and 300mg) and placebo on four separate visits across the study duration. Doses for this study were selected based on the PK exposure determined in the recently completed Phase 1 single and multiple dose ranging study, and bracket the expected targeted efficacy exposure range. Subjects will be enrolled at sites outside of the United States and the study is not being conducted under the Investigational New Drug Application (IND) for TRV045.

The first subject in the trial was dosed in December 2022 and the study is expected to complete enrollment by mid-2023.

"We believe TRV045 represents an innovative, non-opioid based approach to the treatment of pain, and has also shown promising anti-inflammatory data in nonclinical models, suggesting a potential disease-modifying role in other CNS disorders." said Carrie Bourdow, President and CEO of Trevena. "We look forward to reporting topline data from this target engagement study, which will help inform our future development path for TRV045."

About TRV045

TRV045 is a novel, selective sphingosine-1-phosphate subtype 1 (S1P₁) receptor modulator being developed as a potential treatment for acute and chronic neuropathic pain secondary to diabetic peripheral neuropathy. Through a collaboration with the National Institutes of Health, Trevena is also exploring TRV045 as a potential treatment for epilepsy.

S1P receptors are located throughout the body, including the central nervous system, where they are believed to play a role in modulating neurotransmission, neuroinflammatory processes, and membrane excitability.

Trevena's discovery efforts have identified a family of compounds that are highly selective for the S1P₁ receptor. TRV045 reversed thermal hyperalgesia, a measure of neuropathic pain, in nonclinical models of diabetic peripheral neuropathy and chemotherapy-induced peripheral neuropathy. TRV045 was not associated with lymphopenia and produced no changes in blood pressure, heart rate, or respiratory function at or above pharmacologically active doses in nonclinical studies. TRV045 is an investigational drug and has not been approved by the FDA.

About Trevena

Trevena, Inc. is a biopharmaceutical company focused on the development and commercialization of innovative medicines for patients with CNS disorders. The Company has one approved product in the United States, OLINVYK® (oliceridine) injection, indicated in adults for the management of acute pain severe enough to require an intravenous opioid analgesic and for whom alternative treatments are inadequate. The Company's novel pipeline is based on Nobel Prize winning research and includes three differentiated investigational drug candidates: TRV045 for diabetic neuropathic pain and epilepsy, TRV250 for the acute treatment of migraine and TRV734 for maintenance treatment of opioid use disorder.

For more information, please visit www.Trevena.com

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 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 the ongoing COVID-19 pandemic, 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 an

For more information, please contact:
Investor Contact:
Dan Ferry
Managing Director
LifeSci Advisors, LLC
daniel@lifesciadvisors.com
(617) 430-7576
Company Contact:
Bob Yoder
SVP and Chief Business Officer
Trevena, Inc.
(610) 354-8840