
**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): **November 14, 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)

Registrant's telephone number, including area code: **(610) 354-8840**

Not applicable
(Former name or former address, if changed since last report.)

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 2.02. Results of Operations and Financial Condition.

On November 14, 2023, Trevena, Inc. (the “Company”) issued a press release announcing its financial results for the quarter ended September 30, 2023 and provided an overview of its third quarter operational highlights. A copy of the press release is furnished hereto as Exhibit 99.1 and incorporated herein by reference.

The information under this caption and contained in the press release attached hereto as Exhibit 99.1 is furnished by the Company in accordance with Securities Exchange Commission Release No. 33-8216. This information shall not be deemed “filed” for purposes of Section 18 of the Securities Exchange Act of 1934, as amended (the “Exchange Act”), or incorporated by reference in any filing under the Securities Act of 1933, as amended, or the Exchange Act whether made before or after the date of this Current Report, except as shall be expressly set forth by specific reference in such a filing.

Item 7.01 Regulation FD Disclosure

On November 14, 2023, the Company updated its website to include an updated TRV045 presentation deck. A copy of the updated TRV045 presentation deck is attached hereto as Exhibit 99.2.

The information set forth on this Item 7.01 and furnished hereto as Exhibit 99.2 shall not be deemed “filed” for purposes of Section 18 of the Exchange Act or 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 of this Current Report, except as shall be expressly set forth by specific reference in such a filing.

Item 9.01. Financial Statements and Exhibits.

(d) Exhibits

Number	Description
99.1	Press Release dated November 14, 2023
99.2	Updated TRV045 Presentation Deck dated November 14, 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: November 14, 2023

By: /s/ Barry Shin
Barry Shin
Senior Vice President & Chief Financial Officer

Trevena Reports Third Quarter 2023 Results and Provides Business Update

Company previously announced statistically significant topline TRV045 data from two proof-of-concept studies evaluating S1PR mechanism of action and CNS target engagement

Company reported favorable safety and tolerability data from TRV045 POC studies

Three abstracts for OLINVYK presented at American Society of Anesthesiologists (ASA) Conference

\$15 million tranche from ex-US royalty-based financing agreement received in September

Company to host conference call today, November 14, 2023 at 8:00 a.m. ET

CHESTERBROOK, Pa., November 14, 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 reported its financial results for the third quarter ended September 30, 2023 and provided an overview of its recent operational highlights.

“The third quarter was exciting for Trevena as we reported promising proof-of-concept data for our two TRV045 studies, including favorable safety and tolerability topline data, and strengthened our balance sheet with the receipt of the \$15 million dollar R-Bridge tranche,” said Carrie Bourdow, President and CEO of Trevena. “There is a significant need for safe and effective non-opioid therapies in pain, and for novel mechanisms for the treatment of epilepsy. By the end of the year we anticipate receipt of topline data for TRV045 from the NIH nonclinical seizure prevention study, and we look forward to updating you on the next steps of our plan to advance TRV045, on our own or with a strategic partner, for potential treatment of neuropathic pain, epilepsy and other CNS disorders.”

Third Quarter 2023 and Recent Corporate Highlights

- **TRV045 demonstrates CNS target engagement and encouraging overall results in two proof-of-concept studies.** TRV045 is a novel S1P modulator selective for the S1P receptor subtype 1. The Company previously announced preliminary topline data from two Phase 1 proof-of-concept studies evaluating S1PR mechanism of action and CNS target engagement. Data from both studies demonstrated CNS penetration and target engagement, as well as plasma exposures in the anticipated active dose range, supporting the therapeutic potential of TRV045. In a validated capsaicin-induced neuropathic pain model, TRV045 showed a statistically significant, dose-dependent treatment effect. In the transcranial magnetic stimulation (TMS) proof-of-concept study, TRV045 demonstrated statistically significant changes in the power spectral density in several EEG bands associated with alertness and higher order cognitive function.
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In these studies, TRV045 showed an overall favorable safety and tolerability profile with no drug-related adverse events, no serious adverse events and no study drug-related discontinuations reported. The Company is encouraged by the totality of the data from the POC studies and expects to be in a position in the near future to announce next steps in the clinical development program for TRV045.

Subjects in both studies were enrolled outside of the United States, and the studies were not conducted under the Investigational New Drug Application for TRV045.

- **Three OLINVYK abstracts presented at ASA .** The Company announced the completion of the initial analysis of respiratory data from the 200 patient VOLITION study that was generated at Cleveland Clinic and Wake Forest Baptist Health. The results were presented at the recent ASA meeting. The VOLITION study, a real-world, open-label, multi-site study, assessed the potential impact of OLINVYK on respiratory, gastrointestinal (GI), and cognitive function outcomes in the postoperative setting. In addition, data from the ARTEMIS study, an EMR-based outcomes analysis was presented that demonstrated 1.4 hospital days saved when using OLINVYK. Finally, an invited, oral presentation of the cognitive function study results was presented.
- **Company receives \$15 million tranche from ex-US royalty-based financing.** The Company previously announced receipt of a \$15 million tranche under its non-dilutive ex-US royalty-based financing (the R-Bridge Financing). This tranche of funding was triggered by the first commercial sale of OLINVYK in China by Jiangsu Nhwa, the Company's licensee in China. As previously announced, OLINVYK has been approved in China for use in adults for the management of acute pain severe enough to require an intravenous opioid analgesic and for whom alternative treatments are inadequate. As part of the R-Bridge Financing, Trevena may receive an additional \$10 million upon achievement of either a commercial or financing milestone.

Financial Results for Third Quarter 2023

For the third quarter of 2023, the Company reported a net loss attributable to common stockholders of \$7.9 million, or \$0.57 per share, compared to \$15.3 million, or \$2.24 per share in the third quarter of 2022.

Cash and cash equivalents were \$35.0 million as of September 30, 2023, which the Company believes will be sufficient to fund the Company's operating expenses and capital expenditure requirements into the third quarter of 2024.

Conference Call and Webcast Information

The Company will host a conference call and webcast with the investment community on November 14, 2023, at 8:00 a.m. Eastern Time featuring remarks by Carrie Bourdow, President and Chief Executive Officer, Patricia Drake, Chief Commercial Officer, Pattie Drake, Senior Vice President and Chief Commercial Officer, Mark Demitrack, M.D., Senior Vice President and Chief Medical Officer, and Barry Shin, Chief Financial Officer. In addition, Dan Clauw, M.D., Professor of Anesthesiology, Medicine (Rheumatology) and Psychiatry at the University of Michigan and Director of the Chronic Pain and Fatigue Research Center will join the call as well.

Title: Trevena Third Quarter 2023 Financial Results
Conference Call & Webcast

Date: Tuesday, November 14, 2023

Time: 8:00 a.m. ET

Conference Call Details: Toll-Free: 1-877-704-4453
International: 1-201-389-0920
Conference ID: 13741466

The conference call will be webcast live from the Company's website and will be available via the following links:

Webcast: https://viaid.webcasts.com/starthere.jsp?ei=1636100&tp_key=5e8700c550

The webcast should be accessed 15 minutes prior to the conference call start time. A replay of the webcast will be available following the conclusion of the live broadcast and will be accessible on the Company's website.

About OLINVYK® (oliceridine) injection

OLINVYK is a new chemical entity approved by the FDA in August 2020. OLINVYK contains oliceridine, an opioid, which is a Schedule II controlled substance with a high potential for abuse similar to other opioids. It 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. OLINVYK is available in 1 mg/1 mL and 2 mg/2 mL single-dose vials, and a 30 mg/30 mL single-patient-use vial for patient-controlled analgesia (PCA). Approved PCA doses are 0.35 mg and 0.5 mg and doses greater than 3 mg should not be administered. The cumulative daily dose should not exceed 27 mg. Please see Important Safety Information, including the BOXED WARNING, and full prescribing information at www.OLINVYK.com.

IMPORTANT SAFETY INFORMATION

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 behaviors or conditions.

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 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, 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.
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- 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.
 - 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 OLINVYK 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, 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.
 - 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 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.
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- 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.

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 www.fda.gov/medwatch or call **1-800-FDA-1088**.

Please see Full Prescribing Information, including Boxed Warning.

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 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 product and is not yet 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[®] (olicecidine) 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

About Jiangsu Nhwa:

Jiangsu Nhwa Pharmaceutical Co., Ltd. (SZ002262), founded in 1978, is a leading CNS company in China. Over the past 40 years, Nhwa is exclusively dedicated to developing innovative and differentiated pipeline in the areas of anesthesia, analgesia, psychiatry and neurology via in-house R&D and global partnership.

As a fully integrated pharmaceutical company with more than 4000 employees, Nhwa has comprehensive capabilities in research, clinical development, manufacturing and commercialization of CNS drugs. In recent years, Nhwa has further strengthened its leadership in CNS field in China by providing the services of precision diagnosis of CNS disorders (Shanghai N-yuen Biotechnology Company), and investing the largest Chinese CNS internet health platform (Happy Mood).

About R-Bridge (CBC Group)

CBC Group is Asia's largest and most active healthcare-dedicated investment firm with over US\$5 billion AUM, focused on platform-building, buyout opportunities, and alternative financing across three core areas: pharmaceutical & biotech, medtech, and healthcare services. CBC has a leading team of investment, industry and portfolio management professionals, headquartered in Singapore with offices in New York, Shanghai, Beijing, and Hong Kong and presence in Boston, San Diego, San Francisco and Tokyo.

Founded in February 2020, R-Bridge Healthcare Fund is an affiliate of CBC Group and it is dedicated in providing alternative, non-dilutive financing backed by royalties, revenue interest and other cash flows generated by the sale of healthcare products and services in China, the first of its kind for the asset class and the region. R-Bridge provides additional sources of capital to leading healthcare companies to continue their extraordinary growth trajectories, commercializing their products and services in China and on a global scale.

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; 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.

For more information, please contact:

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TREVENA, INC.
Condensed Statements of Operations
(Unaudited, in thousands except share and per share data)

	Three Months Ended Sept 30,		Nine Months Ended Sept 30,	
	2023	2022	2023	2022
Product revenue	\$ 1	\$ (438)	\$ 28	\$ (438)
License and royalty revenue	179	-	3,179	20
Total revenue	180	(438)	3,207	(418)
Operating expenses:				
Cost of goods sold	175	2,368	389	2,791
Selling, general and administrative	4,572	7,683	15,799	29,003
Research and development	4,260	5,266	12,160	14,816
Total operating expenses	9,007	15,317	28,348	46,610
Loss from operations	(8,827)	(15,755)	(25,141)	(47,028)
Other income	897	460	1,380	363
Net loss	<u>\$ (7,930)</u>	<u>\$ (15,295)</u>	<u>\$ (23,761)</u>	<u>\$ (46,665)</u>
Per share information:				
Net loss per share of common stock, basic and diluted	<u>(\$0.57)</u>	<u>(\$2.24)</u>	<u>(\$2.03)</u>	<u>(\$6.97)</u>
Weighted average shares outstanding, basic and diluted	<u>13,964,301</u>	<u>6,829,013</u>	<u>11,728,842</u>	<u>6,691,061</u>

TREVENA, INC.
Condensed Balance Sheets
(Unaudited, in thousands)

	<u>September 30, 2023</u>	<u>December 31, 2022</u>
Assets		
Current assets:		
Cash and cash equivalents	\$ 34,952	\$ 38,320
Accounts receivable, net	179	-
Inventories	900	906
Prepaid expenses and other current assets	3,447	1,782
Total current assets	<u>39,478</u>	<u>41,008</u>
Restricted cash	540	1,960
Property and equipment, net	1,259	1,488
Right-of-use lease assets	3,813	4,224
Other assets	43	-
Total assets	<u>\$ 45,133</u>	<u>\$ 48,680</u>
Liabilities and stockholders' equity		
Current liabilities:		
Accounts payable, net	\$ 1,545	\$ 2,372
Accrued expenses and other current liabilities	3,629	5,461
Current portion of lease liabilities	982	899
Total current liabilities	<u>6,156</u>	<u>8,732</u>
Loans payable, net	29,642	13,430
Leases, net of current portion	4,689	5,436
Warrant liability	1,097	5,483
Total liabilities	<u>41,584</u>	<u>33,081</u>
Common stock	15	8
Additional paid-in capital	575,067	563,362
Accumulated deficit	(571,533)	(547,772)
Accumulated other comprehensive income (loss)	-	1
Total stockholders' equity	<u>3,549</u>	<u>15,599</u>
Total liabilities and stockholders' equity	<u>\$ 45,133</u>	<u>\$ 48,680</u>



Nasdaq TRVN | November 2023

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; 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)

Preliminary data from proof-of-concept studies for CNS disorders

Innovative CNS Pipeline

Based on Nobel-prize winning biased ligand technology

NCEs addressing acute / neuropathic pain, epilepsy, acute migraine, OUD¹

* 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.



¹ OUD = opioid use disorder

TRV045: Innovative Clinical-Stage S1P₁R Modulator

	TRV045: Selective S1PR Modulator	S1PR: Validated target for multiple blockbusters (fingolimod / siponimod / ozanimod / ponesimod) TRV045: Unique profile with no lymphopenia or cardiac / ophthalmologic / pulmonary AEs
	Compelling Clinical POC Data¹	Statistically significant, dose-dependent effect in validated model of neuropathic pain Statistically significant EEG changes and evidence of early reduction in cortical excitability
	Large Addressable Target Indications	Initial investigation for orphan / non-orphan non-opioid chronic pain and epilepsy Broad potential application in CNS disorders, autoimmune disease and inflammatory disease
	Differentiated Product Profile	Novel MOA; expected once daily oral dosing; potentially effective with favorable safety/tolerability Potential for favorable cognitive profile vs current SOC
	Novel Family of S1PR Modulators	New chemical entity; potent and selective for subtype 1; developed in-house with strong IP NIH collaboration: Epilepsy Therapy Screening Program & Preclinical Screening Pain Platform



SOC = Standard of Care

MOA = Mechanism of action

¹Studies were conducted outside the United States and not under the IND for TRV045

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 effects^{4,5}



Neuropathic pain

- Inhibits pain sensation¹
- Inhibits excitatory neuronal signaling²



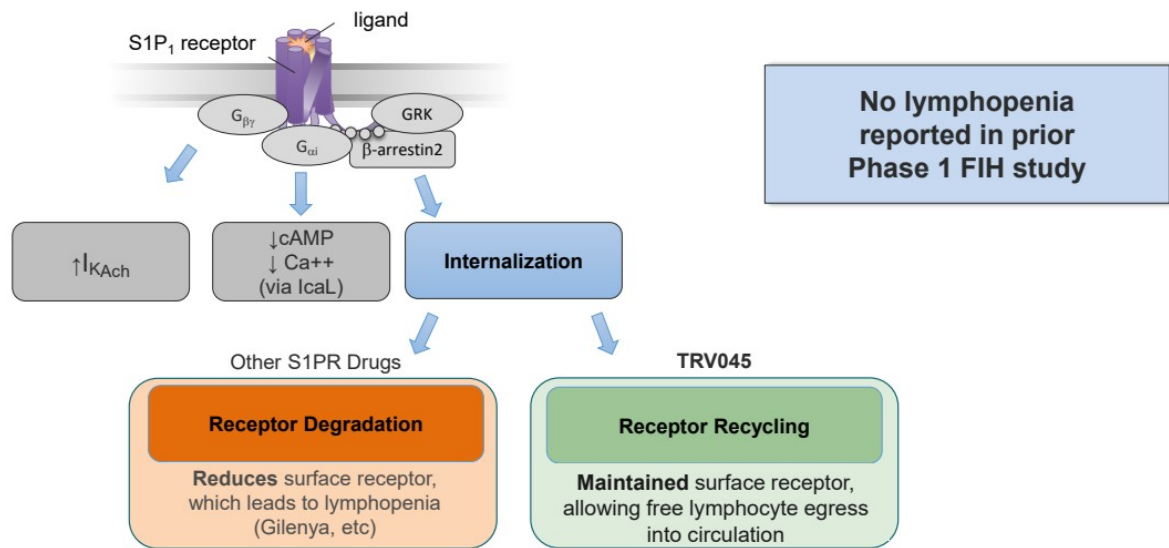
Existing S1PR-targeted drugs, however, are ill-suited for CNS indications due to known:

Lymphopenia
Cardiac AEs

Pulmonary AEs
Ophthalmologic AEs

TRV045 MOA (1): Rapid Receptor Recycling

Maintained (rather than degraded) S1P receptors on cell surface

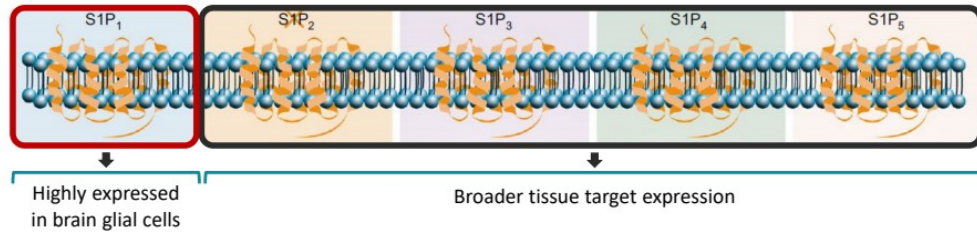


TRV045 MOA (2): S1PR Subtype-1 Selectivity

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
 - May play role in central pain signaling, as well as development and persistence of seizures

Highly expressed in key
CNS / brain cells

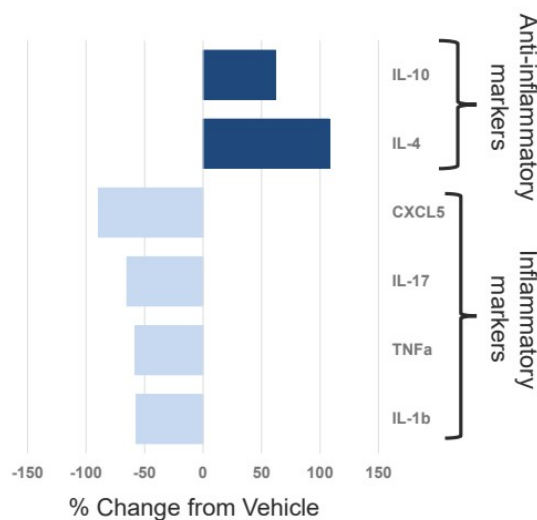


TRV045 MOA (3): Anti-Inflammatory Effect (nonclinical)

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 **anti-inflammatory** markers measured¹
 - Reduced all **inflammatory** markers 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)



1) $P < 0.05$ v vehicle

2) 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 Proof-of-Concept Study Program – Highlights

Preliminary data*

- **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 arousal, alertness, cognitive processing, learning and memory

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

- **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



Studies were conducted outside the United States and not under the IND for TRV045

TRV045 POC Study Program – Overall Objectives

Preliminary data*

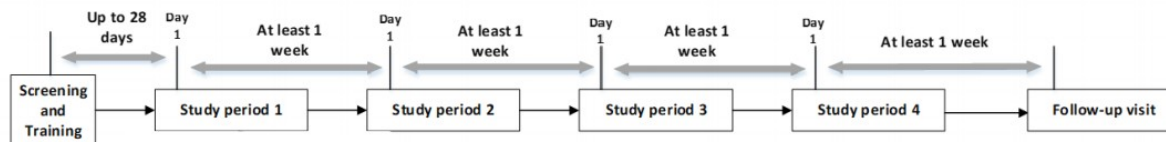
- Provide evidence of CNS penetration and target engagement via pharmacodynamic effects on validated experimental study endpoints in humans, using:
 - Battery of acute and chronic pain models (characterize 'analgesic phenotype' for TRV045)
 - EEG and EMG measures of changes in resting state brain electrical activity on and off drug and TMS-stimulated brain cortical excitability
- Provide PK-PD exposure data to guide future formulation development efforts and dose range selection for future Phase 2 studies
 - Prior phase 1 data demonstrated PK profile consistent with anticipated once-daily dosing
- Provide additional safety and tolerability data to support results of initial Phase 1 FIH study
 - No lymphopenia
 - No cardiovascular signals of concern
 - No evidence of ophthalmologic, pulmonary adverse effects



* Complete safety and tolerability data expected early 4Q 2023
Studies were conducted outside the United States and not under the IND for TRV045
Source: Trevena data on file

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_{max} , $t_{1/2}$)
- Safety and tolerability



Studies were conducted outside the United States and not under the IND for TRV045
Source: Trevena data on file

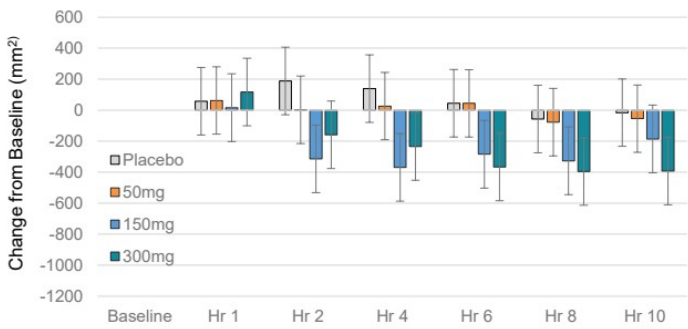
TRV045 Significantly Reduced Mechanical Allodynia

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

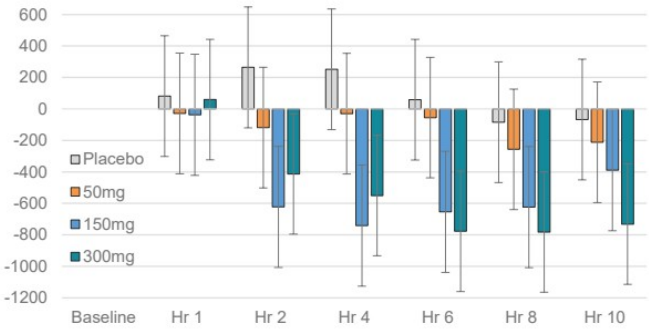
300mg TRV045 v Placebo; P=0.0023
150mg TRV045 v Placebo; P=0.0022

300mg TRV045 v Placebo; P=0.0001
150mg TRV045 v Placebo; P=0.0002

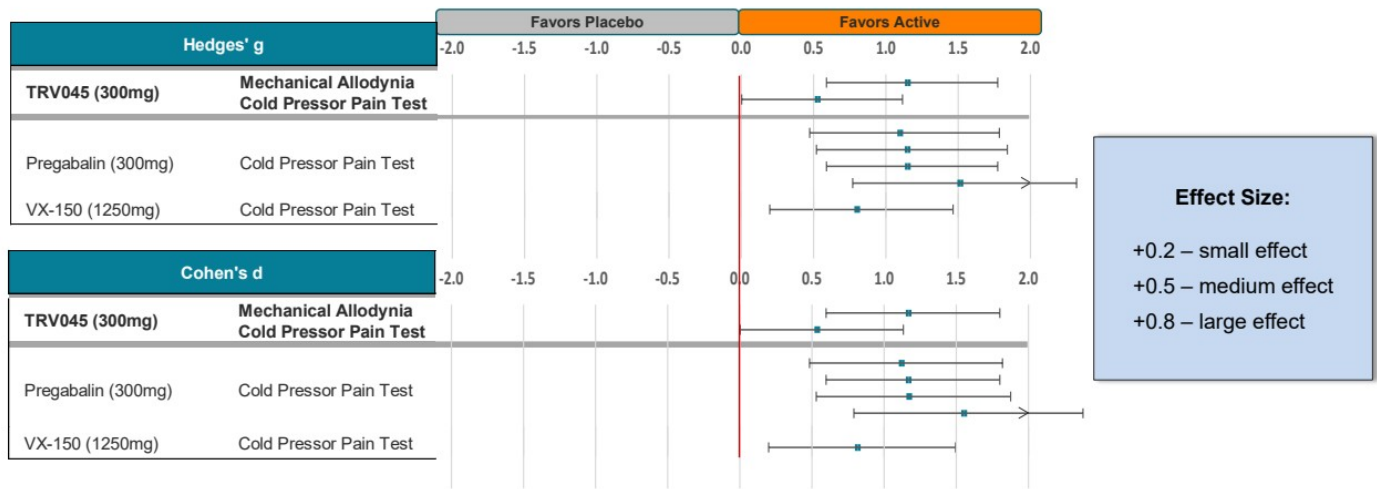
Secondary Allodynic Area



Total Allodynic Area



Effect Size Comparison: TRV045 v Other Analgesics



- Studies for comparators conducted at same 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

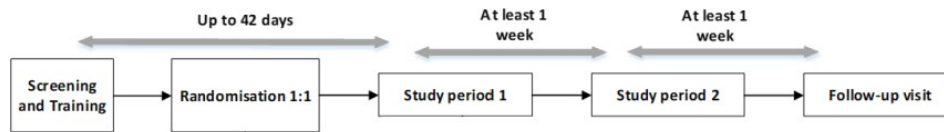
Target Engagement (PainCart®) Study

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

TMS POC Study Design

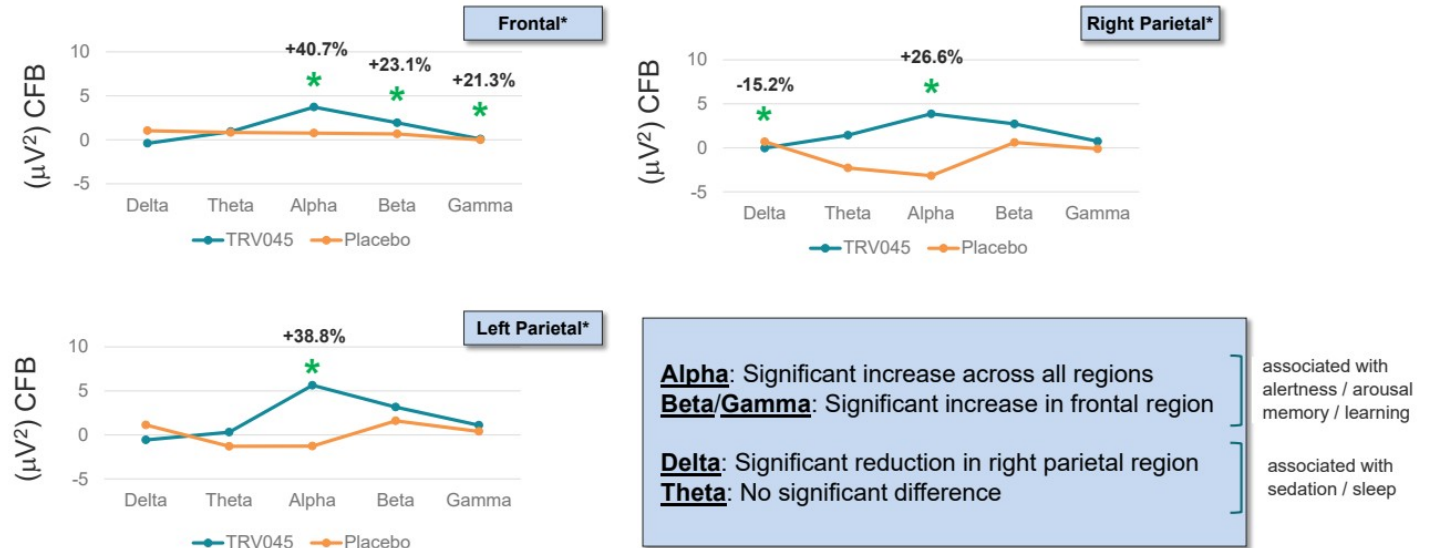
- **Design:** Randomized, double-blind, placebo-controlled, multiple dose, two-way cross-over (n=25 male subjects; mean age 31.5 years, range 21-55)
 - Placebo or TRV045 (250mg) for 4 days; post-dose assessments performed at 4 hours



- 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



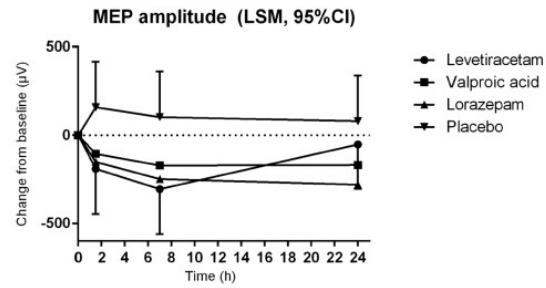
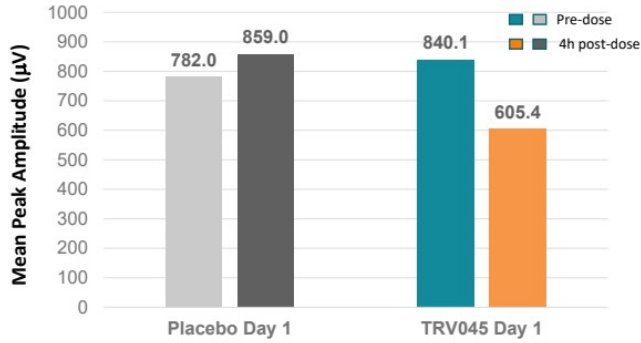
* Denotes pairwise comparison $P < 0.05$

Frontal = Fz-Cz; left parietal = Pz-O1; right parietal = Pz-O2
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)¹⁶

TRV045 Effect on Cortical Excitability vs AEDs*

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



Estimated difference vs placebo:

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

- -304.14 µV, 95% CI -688.19 to 79.919 (P=0.1182)

- Levetiracetam: -378.4 µV, 95% CI -644.3 to -112.5; P<0.01
- 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 $\geq 10\%$ 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	2 (8%)	2	0	0	3 (12%)	3	3 (12%)	3
	Headache	2 (8%)	2	3 (12%)	3	8 (32%)	9	8 (32%)	9
	Somnolence	2 (8%)	3	2 (8%)	2	5 (20%)	5	8 (32%)	8

TMS Study		Placebo		TRV045 250mg	
		N (%)	Events	N (%)	Events
General Disorders	Fatigue	1 (4%)	3	3 (12%)	5
Nervous System Disorders	Headache	6 (22%)	8	9 (36%)	12
	Somnolence	4 (15%)	3	3 (12%)	4

- No clinically significant 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 arousal, alertness, cognitive processing, learning and memory

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

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



Studies were conducted outside the United States and not under the IND for TRV045

TRV045: Broad Potential Applicability

Unique MOA Produces Compelling Profile

Potent and selective S1P₁R 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)



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: Innovative Clinical-Stage S1P₁R Modulator

	TRV045: Selective S1PR Modulator	S1PR: Validated target for multiple blockbusters (fingolimod / siponimod / ozanimod / ponesimod) TRV045: Unique profile with no lymphopenia or cardiac / ophthalmologic / pulmonary AEs
	Compelling Clinical POC Data¹	Statistically significant, dose-dependent effect in validated model of neuropathic pain Statistically significant EEG changes and evidence of early reduction in cortical excitability
	Large Addressable Target Indications	Initial investigation for orphan / non-orphan non-opioid chronic pain and epilepsy Broad potential application in CNS disorders, autoimmune disease and inflammatory disease
	Differentiated Product Profile	Novel MOA; expected once daily oral dosing; potentially effective with favorable safety/tolerability Potential for favorable cognitive profile vs current SOC
	Novel Family of S1PR Modulators	New chemical entity; potent and selective for subtype 1; developed in-house with strong IP NIH collaboration: Epilepsy Therapy Screening Program & Preclinical Screening Pain Platform



SOC = Standard of Care

MOA = Mechanism of action

¹Studies were conducted outside the United States and not under the IND for TRV045

TRV045

Prior FIH Phase 1 Study

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)

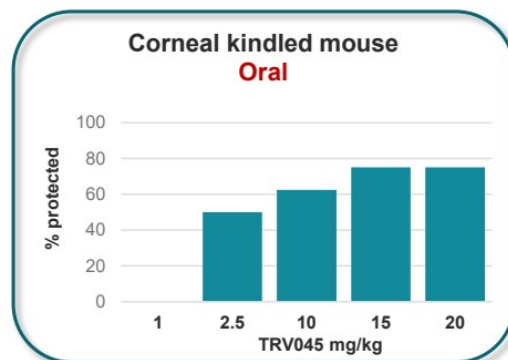
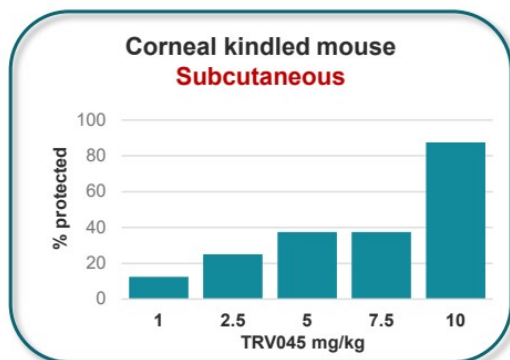
TRV045

Nonclinical Data - Epilepsy

TRV045: Dose Dependent Seizure Protection (nonclinical)

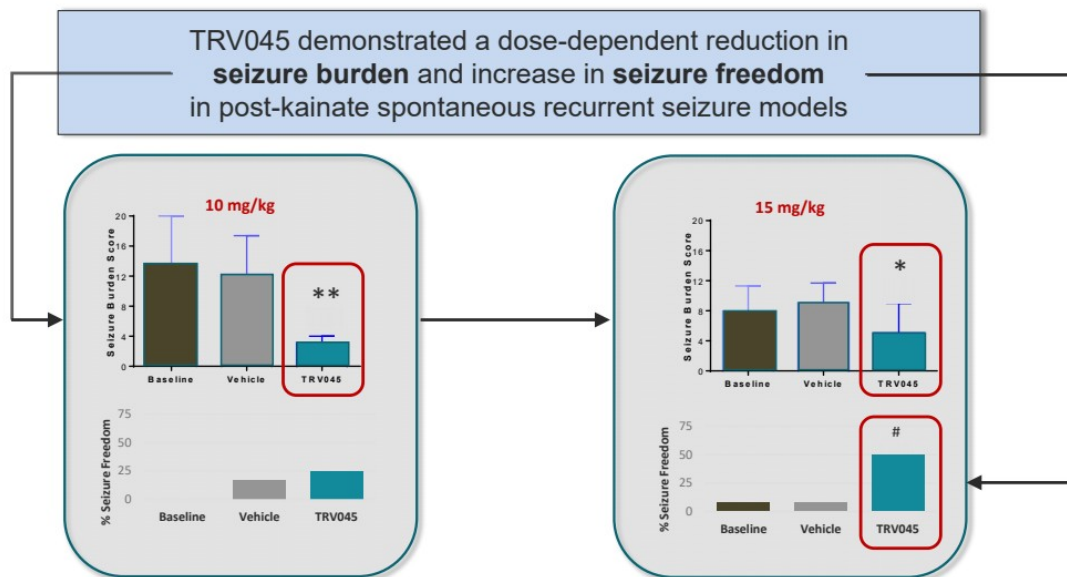
Corneal-kindled Seizure Model

TRV045 demonstrated
dose-dependent protection in seizure risk
in corneal-kindled seizure models



TRV045: Improved Seizure Burden / Freedom in Nonclinical Model

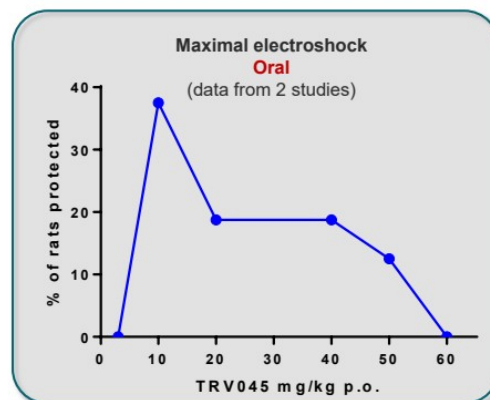
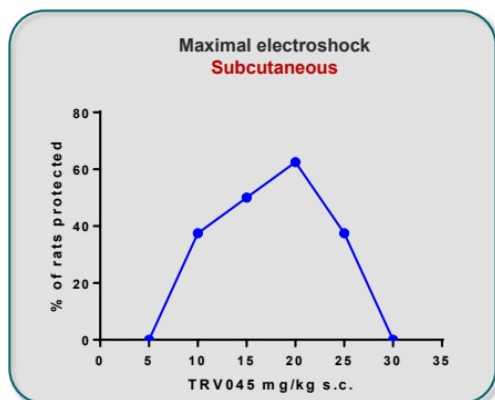
Post-kainate Spontaneous Recurrent Seizure Model



TRV045: Protection from Acute Seizures in Nonclinical Model

Maximal Electroshock Model

TRV045 demonstrated
protection from acute seizures
in three replicated experiments

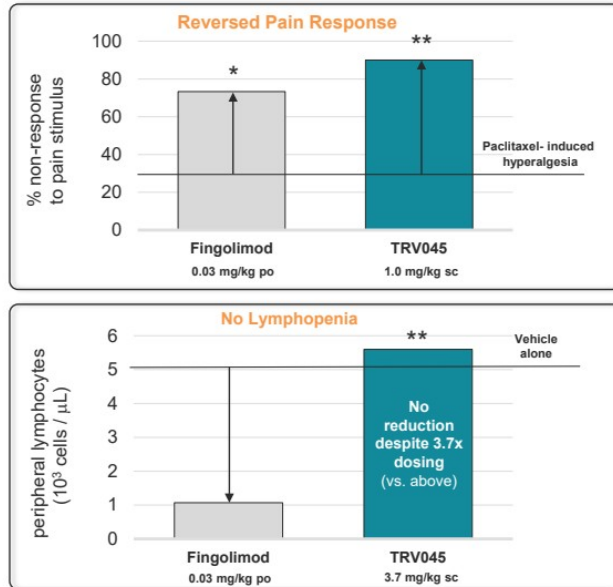


TRV045

Nonclinical Data – Non-opioid Pain Indications

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

Mouse chemotherapy-induced peripheral neuropathy (CIPN) model



Reversed neuropathic pain...

...with no lymphopenia

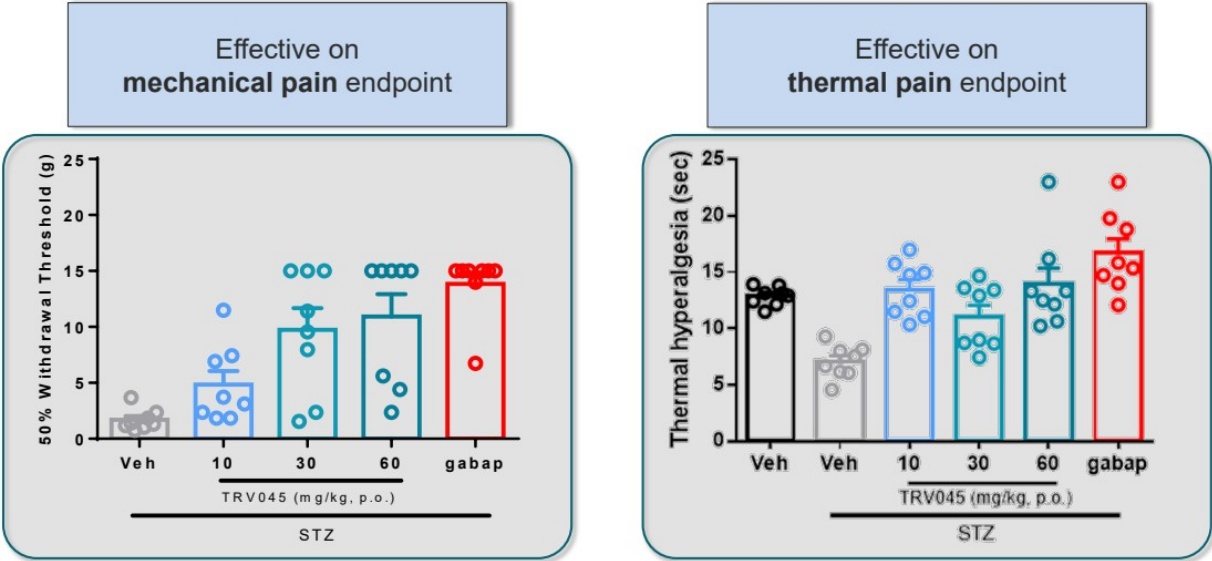
Source: Trevena data on file



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 20. Lymphocytes measured after 3 days of dosing. Data are mean \pm s.e.m. n=5-7 mice/group. *p<0.05 or **p<0.001 vs. control

TRV045: Reversed Hyperalgesia in Nonclinical Model

Rat diabetic peripheral neuropathic pain (STZ) model





IMPORTANT SAFETY INFORMATION

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 behaviors or conditions.

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.

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.

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.



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 OLINVYK 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, 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.
- 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 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.

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- 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.

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