



TIVORBEX® Now Available in U.S. Pharmacies for the Treatment of Acute Pain

Second Low-Dose SoluMatrix® NSAID from Iroko Now Available by Prescription

PHILADELPHIA, June 29, 2015 — Iroko Pharmaceuticals, LLC, a global specialty pharmaceutical company dedicated to advancing the science of analgesia, announced today that TIVORBEX® (indomethacin) capsules, a nonsteroidal anti-inflammatory drug (NSAID), is now available by prescription at pharmacies across the United States. TIVORBEX 20 mg and 40 mg dosage strengths are 20 percent lower than the 25 mg and 50 mg indomethacin products currently on the market. TIVORBEX is approved by the U.S. Food and Drug Administration (FDA) for the treatment of mild to moderate acute pain in adults¹.

“We are pleased to introduce TIVORBEX, our second low dose SoluMatrix® NSAID, for patients suffering from acute pain,” said Lou Vollmer, President of Iroko. “TIVORBEX joins ZORVOLEX® (diclofenac) capsules, a low dose formulation of diclofenac, in our growing portfolio and signifies Iroko’s commitment to developing low dose NSAID options for patients.”

Systematic reviews of observational studies have shown that serious NSAID adverse events, including cardiovascular thrombotic events, myocardial infarction, stroke, gastrointestinal ulcers, gastrointestinal bleeds² and renal events such as acute renal failure³ are dose related. This prompted the FDA and professional medical organizations including the American Heart Association, American Gastroenterological Association, and The American College of Rheumatology, to recommend that NSAIDs be used at the lowest effective dose for the shortest possible duration of time consistent with individual patient treatment goals⁴.

“We are excited to bring TIVORBEX to the community as a low dose option to treat pain in the U.S.,” said Dr. Clarence Young, Chief Medical Officer of Iroko Pharmaceuticals. “TIVORBEX has demonstrated significant pain relief at the lowest dose of indomethacin available, and this launch brings us another step further in addressing the need for efficacious, yet low dose, NSAID treatment options for pain management.”



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TIVORBEX contains indomethacin as submicron particles that are approximately 20 times smaller than their original size. The reduction in particle size provides an increased surface area, leading to faster dissolution.

Iroko's ZORVOLEX, also developed using SoluMatrix Fine Particle Technology™, is approved by the U.S. FDA for the management of mild to moderate acute pain and osteoarthritis pain, and is also available by prescription in U.S. pharmacies⁵.

TIVORBEX is indicated for the treatment of mild to moderate acute pain in adults.

Important Safety Information about TIVORBEX

Cardiovascular Risk

Nonsteroidal anti-inflammatory drugs (NSAIDs) may cause an increased risk of serious cardiovascular thrombotic events, myocardial infarction, and stroke, which can be fatal. This risk may increase with duration of use. Patients with cardiovascular disease or risk factors for cardiovascular disease may be at greater risk.

TIVORBEX is contraindicated for the treatment of perioperative pain in the setting of coronary artery bypass graft (CABG) surgery.

Gastrointestinal Risk

NSAIDs cause an increased risk of serious gastrointestinal adverse events including bleeding, ulceration, and perforation of the stomach or intestines, which can be fatal. These events can occur at any time during use and without warning symptoms. Elderly patients are at greater risk for serious gastrointestinal events.

TIVORBEX is contraindicated in patients with: a known hypersensitivity to indomethacin or its inactive ingredients; a history of asthma, urticaria, or other allergic-type reactions after taking aspirin or other NSAIDs.



TIVORBEX should be used at the lowest effective dose for the shortest duration consistent with individual patient treatment goals.

Elevation of one or more liver tests may occur during therapy with NSAIDs, including TIVORBEX. Physicians should measure transaminases (ALT and AST) periodically in patients receiving long-term therapy with TIVORBEX. TIVORBEX should be discontinued immediately if abnormal liver tests persist or worsen.

NSAIDs, including TIVORBEX, can lead to the new onset or worsening of existing hypertension, which may contribute to the increased incidence of cardiovascular events. Blood pressure should be monitored closely during treatment with TIVORBEX. NSAIDs may diminish the antihypertensive activity of thiazides, loop diuretics, ACE inhibitors and angiotensin II antagonists.

Fluid retention and edema have been observed in some patients taking NSAIDs. TIVORBEX should be used with caution in patients with fluid retention or heart failure.

Long-term administration of NSAIDs can result in renal papillary necrosis and other renal injury. TIVORBEX should be used with caution in patients at greatest risk of this reaction, including the elderly, those with impaired renal function, heart failure, liver dysfunction, and those taking diuretics and ACE inhibitors. Treatment with TIVORBEX in patients with advanced renal disease is not recommended.

Anaphylactic reactions may occur in patients with the aspirin triad or in patients without prior exposure to TIVORBEX and should be discontinued immediately if an anaphylactic reaction occurs.

Indomethacin may aggravate depression, and other psychiatric disturbances, epilepsy, or parkinsonism, and should be used with caution in patients with these conditions. Indomethacin may cause drowsiness; therefore patients should be cautioned about engaging in activities requiring mental alertness and motor coordination. Discontinue TIVORBEX if severe central nervous system (CNS) adverse reactions develop.



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NSAIDs can cause serious skin adverse events such as exfoliative dermatitis, Stevens - Johnson Syndrome (SJS), and toxic epidermal necrolysis (TEN), which can be fatal. TIVORBEX should be discontinued if rash or other signs of local skin reaction occur.

Starting at 30 weeks' gestation, TIVORBEX and other NSAIDs should be avoided by pregnant women as premature closure of the ductus arteriosus in the fetus may occur.

Concomitant administration of indomethacin and aspirin or anticoagulants is not generally recommended because the risk of increased GI bleeding is higher than in users of either drug alone.

Most common adverse reactions in clinical trials (incidence $\geq 2\%$) include: nausea, post procedural edema, headache, dizziness, vomiting, post procedural hemorrhage, constipation, pruritus, diarrhea, dyspepsia, post procedural swelling, presyncope, rash, upper abdominal pain, somnolence, generalized pruritus, hyperhidrosis, decreased appetite, hot flush, and syncope.

Please see full [Prescribing Information](#) for additional important safety and dosing information.

ZORVOLEX is indicated for the management of mild to moderate acute pain and osteoarthritis pain.

Important Safety Information about ZORVOLEX

Cardiovascular Risk

Nonsteroidal anti-inflammatory drugs (NSAIDs) may cause an increased risk of serious cardiovascular thrombotic events, myocardial infarction, and stroke, which can be fatal. This risk may increase with duration of use. Patients with cardiovascular disease or risk factors for cardiovascular disease may be at greater risk.

ZORVOLEX is contraindicated for the treatment of perioperative pain in the setting of coronary artery bypass graft (CABG) surgery.

Gastrointestinal Risk



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NSAIDs cause an increased risk of serious gastrointestinal adverse events including bleeding, ulceration, and perforation of the stomach or intestines, which can be fatal. These events can occur at any time during use and without warning symptoms. Elderly patients are at greater risk for serious gastrointestinal events.

ZORVOLEX is contraindicated in patients with: a known hypersensitivity to diclofenac or its inactive ingredients; a history of asthma, urticaria, or other allergic-type reactions after taking aspirin or other NSAIDs.

ZORVOLEX should be used at the lowest effective dose for the shortest duration consistent with individual patient treatment goals.

Elevation of one or more liver tests may occur during therapy with ZORVOLEX. Physicians should measure transaminases (ALT and AST) periodically in patients receiving long-term therapy with ZORVOLEX. ZORVOLEX should be discontinued immediately if abnormal liver tests persist or worsen.

NSAIDs, including ZORVOLEX, can lead to the new onset or worsening of existing hypertension, which may contribute to the increased incidence of cardiovascular events. Blood pressure should be monitored closely during treatment with ZORVOLEX. NSAIDs may diminish the antihypertensive activity of thiazides, loop diuretics, ACE inhibitors and angiotensin II antagonists.

Fluid retention and edema have been observed in some patients taking NSAIDs. ZORVOLEX should be used with caution in patients with fluid retention or heart failure.

Long-term administration of NSAIDs can result in renal papillary necrosis and other renal injury. ZORVOLEX should be used with caution in patients at greatest risk of this reaction, including the elderly, those with impaired renal function, heart failure, liver dysfunction, and those taking diuretics and ACE inhibitors. Treatment with ZORVOLEX in patients with advanced renal disease is not recommended.

Anaphylactoid reactions may occur in patients with the aspirin triad or in patients without prior exposure to ZORVOLEX and should be discontinued immediately if an anaphylactoid reaction occurs.



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NSAIDs can cause serious skin adverse events such as exfoliative dermatitis, Stevens - Johnson Syndrome (SJS), and toxic epidermal necrolysis (TEN), which can be fatal. ZORVOLEX should be discontinued if rash or other signs of local skin reaction occur.

Starting at 30 weeks' gestation, ZORVOLEX and other NSAIDs should be avoided by pregnant women as premature closure of the ductus arteriosus in the fetus may occur.

Concomitant administration of diclofenac and aspirin or anticoagulants is not generally recommended because of the risk of increased GI bleeding that is higher than in users of either drug alone.

Most common adverse reactions in clinical trials (incidence $\geq 2\%$) include: edema, nausea, headache, dizziness, vomiting, constipation, pruritus, diarrhea, flatulence, pain in extremity, abdominal pain, sinusitis, alanine aminotransferase increased, blood creatinine increased, hypertension, and dyspepsia.

ZORVOLEX capsules do not result in an equivalent systemic exposure to diclofenac as other oral formulations. Therefore, do not substitute similar dosing strengths of other diclofenac products for ZORVOLEX.

Please see full [Prescribing Information](#) for additional important safety and dosing information.

About Iroko Pharmaceuticals, LLC

Iroko is a global specialty pharmaceutical company, based in Philadelphia, dedicated to advancing the science of analgesia. The company develops and globally commercializes pharmaceutical products.

Iroko is at the forefront of the development of SoluMatrix[®] NSAIDs – new low dose drug products based on existing NSAIDs – using iCeutica Inc.'s proprietary SoluMatrix Fine Particle Technology[™] exclusively licensed to Iroko for NSAIDs. ZORVOLEX is the first SoluMatrix[®] NSAID and is available in pharmacies; TIVORBEX[™] is approved by FDA. For more information, visit www.iroko.com.

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SoluMatrix Fine Particle Technology™ is a trademark of iCeutica Inc., and the technology is licensed to Iroko for exclusive use in NSAIDs.

SoluMatrix® is a trademark of iCeutica Pty Ltd and is licensed to Iroko.

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¹ Prescribing Information for TIVORBEX, pg. 1.

² Rahme E et. al. (2001 Aug). Cost of prescribed NSAID-related gastrointestinal adverse events in elderly patients. Br J Clin Pharmacol. 52(2): 185-192.

³ Dunn, M. Nonsteroidal Antiinflammatory Drugs and Renal Function. Annual Review of Medicine. Vol. 35: 411-428. DOI: 10.1146/annurev.med.35.020184.002211.

⁴ U.S. Food and Drug Administration. Public Health Advisory - FDA Announces Important Changes and Additional Warnings for COX-2 Selective and Non-Selective Non-Steroidal Anti-Inflammatory Drugs (NSAIDs).

⁵ Prescribing Information for ZORVOLEX, pg. 1.