



ZELRIX, A NOVEL TRANSDERMAL PATCH FOR MIGRAINE, FOUND TO PROVIDE RAPID, CONSISTENT, AND SUSTAINED RELIEF FOR MIGRAINE SUFFERERS IN PHASE III TRIAL

Achieves statistical significance on primary endpoint and all key secondary endpoints

Philadelphia, PA, September 10, 2009 – [NuPathe Inc.](#), a specialty pharmaceutical company developing innovative products for the treatment of neurological and psychiatric diseases, today announced data from the pivotal Phase III trial of [Zelrix™](#), a novel transdermal patch in clinical development for the treatment of acute migraine. Zelrix combines NuPathe's proprietary [SmartRelief™](#) iontophoretic transdermal technology with sumatriptan, the most prescribed treatment for acute migraine in the United States. The Phase III trial was conducted in 530 adults and was administered in a multi-center, randomized, parallel group, double-blind, placebo-controlled trial, where efficacy and tolerability of Zelrix were compared with placebo.

Zelrix met the primary efficacy endpoint of a statistically significant improvement compared to placebo for pain freedom at two hours after patch application (18 percent vs. 9 percent, $p=0.0092$). Additional pre-defined two hour efficacy endpoints included:

- **Pain relief:** 53 percent of patients treated with Zelrix compared with 29 percent for placebo ($p<0.0001$);
- **Nausea free:** 84 percent of patients treated with Zelrix compared with 63 percent for placebo ($p<0.0001$);
- **Photophobia free:** 51 percent of patients treated with Zelrix compared with 36 percent for placebo ($p=0.0028$);
- **Phonophobia free:** 55 percent of patients treated with Zelrix compared with 39 percent for placebo ($p=0.0002$).

In addition to meeting the primary and key secondary endpoints, Zelrix demonstrated rapid efficacy and sustained pain relief with lower use of rescue medication:

- **Pain relief within one hour:** 29 percent of patients treated with Zelrix compared with 19 percent for placebo ($p=0.0135$);
- **Nausea free within one hour:** 71 percent of patients treated with Zelrix compared with 58 percent for placebo ($p=0.0251$);
- **Sustained pain relief (from two to 24 hours):** 34 percent of patients treated with Zelrix compared with 21 percent for placebo ($p=0.0015$);
- **Use of rescue medication:** 40 percent of patients treated with Zelrix compared with 60 percent for placebo ($p<0.0001$).

Zelrix was well-tolerated in the clinical trial. Skin tolerability was typical of other transdermal products with mild to moderate erythema present upon patch removal. The incidence of triptan-specific adverse events was very low (2 percent for Zelrix). The most common adverse event was application site pain,



having been reported by 23 percent of patients with Zelrix compared to 15 percent with placebo. The next most common adverse event was application site tingling, with 12 percent reported with Zelrix compared to 19 percent with placebo. The majority of adverse events were reported as mild and transient.

“The Zelrix patch is a highly-effective, well tolerated, non-oral treatment for migraine,” said [Jerome Goldstein, MD](#), founder of the Headache and Facial Pain Section of the American Academy of Neurology and Director of the San Francisco Headache Clinic and Clinical Research Center. “Treatment-altering nausea, medication side effects, and inconsistent drug absorption are common problems that prevent many patients from effectively treating their migraines. The data from the clinical trial indicates that Zelrix could benefit many migraine patients.”

“Transdermal delivery has been recognized as an ideal approach to treating migraine, but has not been achieved to date,” said [Jane Hollingsworth](#), chief executive officer of NuPathe. “Using NuPathe’s SmartRelief technology, Zelrix is poised to be the first and only transdermal patch approved for the treatment of acute migraine. This breakthrough is an important milestone for NuPathe and millions of migraine sufferers. We plan to file an NDA for Zelrix in 2010 and look forward to bringing this important innovation to patients.”

NuPathe will present Phase III data at the 14th Congress of the [International Headache Society](#) in Philadelphia on Friday, Sept. 11, 2009 at 1:15 p.m. EDT and on Saturday, Sept. 12, 2009 at 11:45 a.m. EDT.

About Zelrix

Zelrix is a novel migraine therapy in clinical development for the treatment of acute migraine. If approved for marketing, Zelrix would be the first and only transdermal patch for migraine patients. Zelrix utilizes a proprietary state-of-the-art transdermal delivery system, SmartRelief, to deliver sumatriptan, the most widely prescribed migraine therapy in the United States, in a rapid but controlled manner.

Zelrix was designed to address key limitations of existing therapies. Oral therapies are often difficult to take when patients are nauseated during migraine attacks and can lead to inconsistent efficacy. In addition, side effects associated with peak plasma concentrations limit patients’ ability or willingness to take certain treatments. Based upon clinical results to date, Zelrix could offer patients a treatment that allows them to treat their migraine on time every time, regardless of gastrointestinal symptoms, in a well-tolerated manner. NuPathe expects to submit an NDA for Zelrix in 2010.

About SmartRelief

SmartRelief is a proprietary iontophoretic system combining modern electronics with state-of-the-art formulation and pharmaceuticals technology. Iontophoresis is a non-invasive method for transporting a molecule through the skin by means of a mild electrical current. The electrical current carries the charged molecule from the patch across the skin. Once across, the drug is rapidly absorbed by the microvascular and distributed systemically.



About Migraine

Migraine is an episodic headache disorder associated with various combinations of neurologic, gastrointestinal, and autonomic symptoms that affects approximately 28 million Americans, mostly women. Common symptoms of migraine include recurrent headaches, nausea, vomiting, photophobia (sensitivity to light) and phonophobia (sensitivity to sound).

According to the National Headache Foundation, 55 percent of migraine sufferers frequently experience nausea as part of their migraine attacks commonly resulting in patients delaying, modifying, or skipping treatment. Concerns about treatment-related side effects also lead patients to delay, modify, or skip treatment in over one-third of migraine attacks. Moreover, many patients experience inconsistent relief, which experts attribute, in part, to substantial variation in oral drug absorption.

About NuPathe

NuPathe Inc. is a specialty pharmaceutical company developing innovative therapeutic products for the treatment of neurological and psychiatric diseases. NuPathe's mission is to identify and address the needs of patients that are insufficiently met by current treatments. NuPathe's product portfolio includes Zelrix which, if approved, would be the first and only transdermal patch for the treatment of acute migraine, and NP201, a long acting injectable implant for the treatment of Parkinson's disease. Please visit NuPathe's web site at www.nupathe.com.

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