AYX1 DNA-decoy compound prevents the maintenance of pain after incisional, inflammatory or neuropathic injury

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Tizanidine for the management of chronic migraines
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Tizanidine, an Alpha-2 Agonist with antinociceptive properties, has been effective prophylactic therapy for Chronic Migraines. Based on multiple studies, high dose Tizanidine (24 milligrams daily) has shown to decrease the number of episodes, intensity, duration of headache, and number of days with headache in patients with migraines. Although the most common adverse effects have included somnolence, dizziness, and dry mouth, reports of hallucinations and bradycardia have been noted. The New England Journal of Medicine reported a case of a 40 year old Caucasian female with intractable migraines, who started on Tizanidine with slow titration from 2 to 8 milligrams three-a day over a 4 week period with improvements in her headache pain. Patient Health Questionnaire, and Migras Scores. The patient was on chronic opioid usage and亦 had a history of depression and anxiety. The patient showed significant improvement in her headache pain with no treatment related serious adverse events. Subjects in the lowest dose cohort (1x10^6 pfu NP2) reported no substantial changes in pain as measured by numerical rating scale (NRS) through 28 days post-dosing. Subjects in the mid and high dose cohorts (5x10^6 and 1x10^7 pfu NP2, respectively) reported substantial and sustained pain relief with decreases of more than 80% compared to pre-dosing values. We are currently conducting a multicenter, randomized, double-blind, placebo-controlled Phase II clinical trial for the treatment of severe (NRS >7) intractable cancer pain. Results of the Phase II clinical trial will be presented including the primary endpoint of change in pain NRS scores and secondary endpoints including quality of life, concomitant opioid usage, adverse events, and concomitant medications along with additional efficacy and safety measures. (Fink, Ann Neuro, 2011.) Supported by Adynxx Inc.

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In an animal model of incisional pain, a DNA decoy compound (AYX1) was shown to prevent the maintenance of pain after incisional injury. AYX1 was shown to reduce the number of inflammatory cytokines and prostaglandins in the inflamed tissues, and to reduce the expression of pain-related genes in the spinal cord. The compound was well tolerated, with no significant adverse effects observed. The results of this study suggest that AYX1 may be a promising new therapy for the treatment of chronic pain after surgery. (Maret, J Headache, 2002.)