Compositions and Methods Selectively Block Pain Induced by Cold

Published date: June 6, 2016

Technology description

Market Opportunity

Current therapies are largely inadequate to treat cold allodynia symptoms which arise from disorders such as nerve injury, inflammation, migraine headaches or chemotherapy-induced peripheral neuropathy. There is a large market for treating cold pain which results from the aforementioned disorders, and the opportunity to provide relief for millions of patients who suffer from neuropathic cold pain.

USC Solution

USC researchers have discovered therapeutic targets that control the effects of cold allodynia. It has been shown that cold allodynia is blocked in animals treated with neutralizing antibodies against the GFR-α3 ligand, Artemin. Heat and mechanical pain were unchanged, indicating that cold allodynia is mediated exclusively by a single molecular pathway. Artemin–GFRα3 signaling therefore can be targeted to selectively treat neuropathic cold pain.

Value Proposition

A large segment of the population suffers from symptoms of cold allodynia due to a variety of disorders
Monoclonal antibodies can be further developed to specifically target the Artemin–GFRα3 signaling pathway to reduce neuropathic cold pain

Application area

Ameliorate inflammation and neuropathic cold pain resulting from nerve injury, inflammation, migraine headaches or side effects from chemotherapeutics

Institution

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