Prosaposin: Therapeutic Compound for Prevention and Treatment of Pain

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Technology description

Summary

The compound prosaposin and its methods of use, already tested successfully in Phase I clinical trials, is available for licensing. Prosaposin is the precursor of the saposins and has both neurotrophic and myelinotrophic activity in vitro and in vivo. It is an injury-repair protein that acts on both neurons and glia.Prosaposin also has myotrophic properties and can attenuate loss of muscle mass after nerve injury.
Prosaposin and peptide derivatives of it will promote neurite outgrowth in vitro. A peptide consensus sequence was determined by comparing the active neurite outgrowth-inducing saposin C peptide sequence with that of various hematopoietic and neuropoietic cytokines. These cytokine-derived peptides will promote the same processes as their corresponding cytokines. In addition, prosaposin and saposin C promote increased nerve cell myelination ex vivo. Demyelination is a defect common to a number of central nervous system disorders, the most common being multiple sclerosis.

Description

This compound could address multiple disease indications. Peripheral nerve injuries and peripheral neuropathies, such as those resulting from diabetes or chemotherapy, comprise the most prevalent peripheral nervous system disorders. Current treatments for peripheral nerve disorders only treat the symptoms, not the cause of the disease.
Post-polio syndrome is characterized by muscle fatigue and decreased endurance with accompanying muscle weakness and atrophy. The disease is believed to be caused in part by damage to the same type of spinal cord motor neurons that are damaged in amyotrophic lateral sclerosis.

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