that each of the figures is provided for the purpose of illustration and description only and is not intended as a definition of the limits of the present disclosure.

DETAILED DESCRIPTION

[0014] In reviewing the detailed disclosure which follows, and the specification more generally, it should be borne in mind that all patents, patent applications, patent publications, technical publications, scientific publications, and other references referenced herein are hereby incorporated by reference in this application, in their entirety to the extent not inconsistent with the teachings herein. It is important to an understanding of the present invention to note that all technical and scientific terms used herein, unless defined herein, are intended to have the same meaning as commonly understood by one of ordinary skill in the art. The techniques employed herein are also those that are known to one of ordinary skill in the art, unless stated otherwise.

I. Examples of Definitions

[0015] In accordance with the presently disclosed invention, the word "comprising" is synonymous with "including," "having," "containing," or "characterized by." These terms are inclusive and open-ended and do not exclude additional, unrecited elements or method steps. In accordance with the presently disclosed invention, the phrase "consisting of" excludes any element, step, or ingredient not specified in the claim. When this phrase appears in a clause of the body of a claim, rather than immediately following the preamble, it limits only the element set forth in that clause; other elements are not excluded from the claim as a whole. In accordance with the presently disclosed invention, the phrase "consisting essentially of" limits the scope of a claim to the specified materials or steps, plus those that do not materially affect the basic and novel characteristic(s) of the claimed subject matter. It is also to be understood that this invention is not limited to the specific embodiments and methods described below, as specific components and/or conditions may, of course, vary. Furthermore, the terminology used herein is used only for the purpose of describing particular embodiments of the present invention and is not intended to be limiting in any way.

[0016] Some definitions are provided below to clarify concepts disclosed in the specification and to help one of skill in the art in the practice of the methods of the disclosure:

[0017] In accordance with the invention presented herein, the words "cell culture" and "culturing of cells" refer to the maintenance and propagation of cells and includes human, human-derived and animal cells in vitro.

[0018] In accordance with the disclosure presented herein, the term "cell culture medium" refers to the maintenance of cells in culture in vitro. For some cell types, the medium may also be sufficient to support the proliferation of the cells in culture. A medium according to the present disclosure provides nutrients such as energy sources, amino acids and inorganic ions. Additionally, it may contain a dye like phenol red, sodium pyruvate, several vitamins, free fatty acids, antibiotics, anti-oxidants and trace elements. For culturing the fibroblast cells that are possessive of anti-nociceptive activity according to the present disclosure, any standard medium such as Iscove's Modified Dulbecco's Media (IMDM), alpha-MEM, Dulbecco's Modified Eagle Media (DMEM), RPMI Media and McCoy's Medium may be used.

[0019] The term "acute pain" is defined as the pain caused by the injury of skin, body structure or internal organs and/or noxious stimulation of the diseases, or the pain caused by the abnormal function of muscle or internal organs that does not produce real tissue injury.

[0020] The term "chronic pain" is defined as the pain that lasts a period of time that exceeds the common course or healing time of acute diseases, or that is associated with the chronic pathological processes that cause continuous pain, or that relapses for several months or years with certain interval. If pain still exists after treatment that should cure the disease, such pain can be regarded as chronic pain. The time duration that the pain lasts depends on the nature of pain and the treatment process associated with pain. If the pain exceeds common treatment process, then this pain is chronic. Chronic pain includes but not limits to headache, facial pain, neck pain, shoulder pain, thoracic pain, abdominal pain, back pain, waist pain, lower limb pain, muscle and bone pain, somatoform disorder associated pain, visceral pain, painful diabetic neuropathy, vascular pain, gout, arthritis pain, cancer pain, autonomic nerve reflex pain, the pain caused by infectious diseases such as AIDS and herpes zoster, the pain caused by autoimmune disease such as rheumatism, the pain caused by acute or chronic inflammation, postoperative pain and post-burning pain. The intrathecal administration of fibroblasts disclosed by this invention can efficiently treat the chronic pain defined as above, and the drugs disclosed by this invention can be used to treat hyperalgia accompanied with other diseases, including hyperalgesia, allodynia, algesia enhancement and pain memory enhancement. This invention will improve the treatment of pain.

[0021] The term "neck pain, back pain, shoulder pain" represent the pain caused by acute or chronic muscle strain and bone joint degeneration and injury. The common diseases that cause neck, shoulder and upper limb pain include cervicoshoulder myofascitis, neck desmitis, cervical spondylopathy, scapulohumeral periarthritis, thoracic outlet syndrome, external humeral epicondylitis, etc. Alternatively, these terms represent the pain cause by autoimmune diseases rheumatoid arthritis, ankylosing spondylitis and rheumatic arthritis. Other diseases that can cause neck pain, back pain and shoulder pain are tumors on neck and shoulder, neuritis, arteriovenous disease and various infections as well as referred pain induced by lesions of thoracic and abdominal organs.

[0022] The term "thoracic, abdominal, and back pain" represent the pain caused by diseases in thoracic and abdominal organs and thoracic and abdominal wall tissues, including but not limiting to intercostal neuralgia, intercostal chondritis, angina pectoris, abdominal pain (acute abdominal organ pain) and waist and back myofascial pain syndrome.

[0023] The term "waist pain, lower limb pain" represent low back, lumbosacral, sacroiliac, hip, buttocks and lower limb pain. Generally, waist and lower limb pain is not independent disease, but the common feature of various diseases, with diverse clinical manifestation and complex etiology. Such pain is mainly induced by degeneration and injury, including but not limiting to the pain involving lumbar disc herniation, acute lumbar sprain, ischialgia,