

Title (en)

INHIBITION OF CELL GROWTH BY KERATAN SULFATE, CHONDROITIN SULFATE, DERMATAN SULFATE AND OTHER GLYCANS

Publication

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Application

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Priority

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Abstract (en)

[origin: WO9106303A1] The present invention is directed to methods of using keratan sulfate, chondroitin sulfate, dermatan sulfate, heparan sulfate, heparin, and hyaluronic acid, and molecules and compositions comprising keratan sulfate, chondroitin sulfate, dermatan sulfate, heparan sulfate, heparin, and hyaluronic acid, to inhibit or prevent neurite outgrowth, i.e., axonal growth, or nerve regeneration (collectively termed herein "nerve growth"), or glial cell migration or invasion, or regeneration, and therapeutically, where the foregoing is desired. In another embodiment of the invention, inhibitors and antagonists of keratan sulfate, chondroitin sulfate, dermatan sulfate, heparan sulfate, heparin, and hyaluronic acid, and molecules and compositions containing the same, may be used to promote nerve growth or glial cell migration or invasion, and can be administered therapeutically. Such inhibitors and antagonists include but are not limited to antibodies, degradative enzymes, lectins; and disaccharide antagonists of the receptors for keratan sulfate, chondroitin sulfate, dermatan sulfate, heparan sulfate, heparin or hyaluronate.

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IPC 8 full level

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- [XP] WO 9006755 A1 19900628 - GLYCOMED INC [US]
- [X] DE 3441835 A1 19860522 - LUITPOLD WERK CHEM PHARM [DE]
- [X] WO 8801280 A1 19880225 - UNIV TEXAS [US]
- [X] EP 0257003 A2 19880224 - PHARMACIA AB [SE]
- EXPERIMENTAL NEUROLOGY, vol. 109, no. 1, July 1990, pages 111-130; D.M. SNOW et al.: "Sulfated proteoglycans in astroglial barriers inhibit neurite outgrowth in vitro"
- DEVELOPMENT BIOLOGY, vol. 138, no. 2, April 1990, pages 359-376; D.M. SNOW et al.: "Molecular and cellular characterization on the glial roof plate of the spinal cord and optic tectum: A possible role for a proteoglycan in the development of an axon barrier"
- THE JOURNAL OF NEUROSCIENCE, vol. 3, no. 11, November 1983, pages 2324-2335; S. CARBONETTO et al.: "Nerve fiber growth in culture on fibronectin, collagen, and glycosaminoglycan substrates"
- JOURNAL OF NEUROSCIENCE RESEARCH, vol. 19, no. 4, April 1988, pages 428-439; N.G. CARRI et al.: "Differential outgrowth of retinal neurites on purified extracellular matrix molecules"
- THE JOURNAL OF CELL BIOLOGY, vol. 105, no. 6, part 1, December 1987, pages 2511-2521; PERRIS et al.: "Amphibian neural crest cell migration on purified extracellular matrix components: A chondroitin sulfate proteoglycan inhibits locomotion on fibronectin substrates"
- THE JOURNAL OF CELL BIOLOGY, vol. 105, no. 6, part 1, December 1987, pages 2511-2521; PERRIS et al.: "Amphibian neural crest cell migration on purified extracellular matrix components: A chondroitin sulfate proteoglycan inhibits locomotion on fibronectin substrates"
- EXPERIMENTAL CELL RESEARCH, vol. 175, no. 2, April 1988, pages 229-247; G. MUGNAI et al.: "Ganglioside-dependent adhesion events of human neuroblastoma cells regulated by the RGDS-dependent fibronectin receptor and proteoglycans"
- FEDERATION PROCEEDINGS, vol. 44, no. 2, February 1985, pages 386-393; B. CATERSON et al.: "Production and characterization of monoclonal antibodies directed against connective tissue proteoglycans"
- THE JOURNAL OF CELL BIOLOGY, vol. 101, 1985, pages 53-59; M. ZANETTI et al.: "Two subpopulations of differentiated chondrocytes identified with a monoclonal antibody to keratan sulfate"
- INTERNATIONAL JOURNAL OF DEVELOPMENTAL NEUROSCIENCE, vol. 7, no. 2, 1989, pages 133-143; G.M. GILAD et al.: "Effects of glycosaminoglycans and proteinase inhibitors on astroglia-induced detachment of cultured rat cerebellar neurons"
- JOURNAL OF CELLULAR PHYSIOLOGY, vol. 135, no. 2, May 1988, pages 293-300; D.H. DAMON et al.: "Sulfated glycosaminoglycans modify growth factor-induced neurite outgrowth in PC12 cells"
- See references of WO 9106303A1

Cited by

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