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Targeting Trends

Reporting the latest news in Molecular Surgery

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Denise Higgins, Editor

ADVANCED TARGETING SYSTEMS

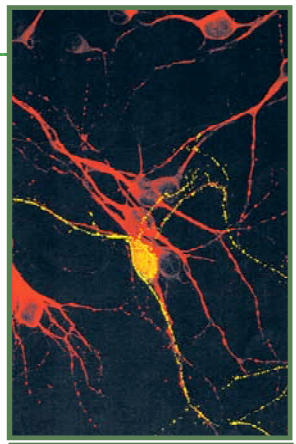
Targeted Therapy for Chronic Pain

In 1997, SP-SAP (a chemical conjugate of Substance P and the ribosome-inactivating protein saporin) was created to eliminate Substance P receptor (SPR) neurons that propagate the signal for chronic pain. ATS has successfully completed preclinical studies, safety tests in animal models and a GLP toxicology study in rat, funded both internally and by the National Institute for Mental Health. In 2000, ATS was granted patent protection for SP-SAP.

ATS is seeking an alliance to commercialize the therapeutic applications of Substance P-Saporin (SP-SAP), a large molecule, biochemical conjugate, that when delivered directly into the spinal fluid, seeks out and eliminates specific nerve cells that transmit chronic pain messages to the brain. Because of its size, this drug does not travel far from the site of administration. This innovative new treatment has created great excitement in the scientific and medical communities.

This is an opportunity for an experienced drug company to participate in the development of a therapeutic with (1) no drug discovery required, (2) patent protection, (3) successful preclinical data, and (4) a defined initial target market with accelerated development timeline.

SP-SAP preclinical data were the basis for two articles in *Science* and received international press coverage. The mechanism of SP-SAP is well understood. It enters SPR-positive neurons by internalization of the ligand-receptor complex. SAP enters the cytoplasm, enzymatically inactivates the ribosomes and shuts down protein synthesis, resulting in cell death. Four key points from these results are: (i) SP-SAP greatly reduces neuropathic and inflammatory pain, (ii) normal pain transmission is completely retained, (iii) pain relief appears permanent with no collateral pain states, and (iv) pain that occurs after treatment with SP-SAP can still be treated with morphine.



Yellow staining for saporin after internalization of SP-SAP by this single spinal cord neuron in primary culture.

The chronic pain population is one of the most pressing healthcare issues in the world, with an estimated size of 50-100 million persons in the U.S. alone. Chronic pain disables more people than cancer or heart disease and costs the American public more than both diseases combined—estimated at upwards of $40B in medical expenses annually.

Advanced Targeting Systems is seeking an alliance with an established pharmaceutical or biotechnology corporation in order to transfer SP-SAP into a working environment that can quickly and efficiently take the drug to human clinical trials and on to market. With the proper infrastructure SP-SAP could be in clinical trials in one year. Income from sales of the drug would be possible in three years. ATS is working with leading universities, has assembled a stellar advisory board, and industry-leading cancer clinicians are waiting to participate in clinical trials. The right alliance would be beneficial not only to the corporations involved, but to the millions who suffer from chronic pain.

For additional information, visit:
http://www.atsbio.com/chronicpain.htm