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Targeting Trends

Reporting the latest news in Molecular Surgery

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Denise Higgins, Editor

ADVANCED TARGETING SYSTEMS

Dermorphin-SAP Kills MOR-Positive Cells

Advanced Targeting Systems announces the release of its new, very exciting targeted toxin, dermorphin-SAP. It is a conjugate of the mu opioid receptor (MOR) agonist dermorphin and the ribosome-inactivating protein, saporin. Its cytotoxicity to cells that express the MOR promise to make it an important tool in the discovery and definition of the role of these cells in many biological processes.

In the latest issue of the *Journal of Neuroscience*, Porreca *et al*. (1) use this molecule for an important characterization of the descending pain pathways and the possible role of "ON" cells, the MOR-expressing cells of the rostroventromedial medulla (RVM), in the processes of chronic pain models. They injected dermorphin-SAP into the RVM and demonstrated loss of MOR-expressing cells near the injection site (Fig. 1). These neurons project to the spinal cord and it has been suggested by Howard Fields that they are responsible for a tonic discharge that mediates descending facilitation of nerve injury-induced pain. In fact, Porreca *et al*. demonstrate that with the loss of these cells, the expression of experimental neuropathic pain is ablated. This striking demonstration of supraspinal neurons having such a powerful effect on spinal cord properties is, well, sensational.

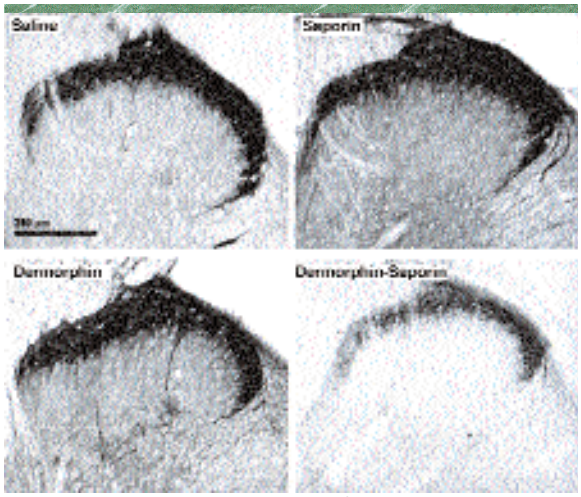

Figure 1. MOR staining in the dorsal horn of rats treated as indicated. Loss of staining in dermorphin-SAP-treated animals is evident.
Figures supplied by Drs. Frank Porreca and Josephine Lai

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A Tribute to Thomas J. Walsh, Ph.D.

Tom Walsh passed away on May 12, 2000. He will be missed. His contribution in the area of targeted toxins has helped to advance the field in many ways.

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3. Gandhi CC, Kelly RM, Wiley RG, **Walsh TJ** (2000) Impaired acquisition of a Morris water maze task following selective destruction of cerebellar purkinje cells with OX7-saporin. *Behav Brain Res* 109(1):37-47.
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