Targeting Tools: New Products

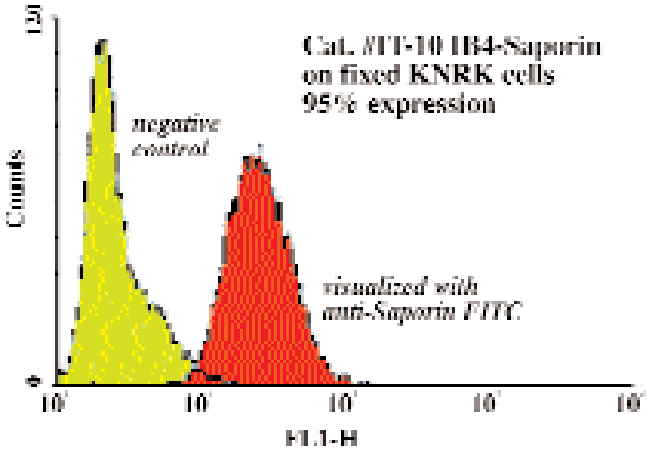
IB4-Saporin

IB4, or the B4 lectin isoform from *Bandeiraea simplicifolia* (*Griffonia simplicifolia*), has played an important role in the delineation of the pathways of pain transmission. One of the two major groups of primary afferents that target the spinal cord dorsal horn neurons are labeled by IB4; the other group by TrkA and peptides such as CGRP and substance P and TrkA (Snider and McMachon, Tackling pain at the source: New ideas about nociceptors. *Neuron* 20:629-632, 1998).

ATS has designed a reagent that can eliminate *in vivo* the IB4-labeled neurons by conjugating the lectin to saporin. This reagent has begun to yield important information about pain pathways, .

According to work presented at the Society for Neuroscience meeting, IB4-SAP specifically eliminates the IB4-positive neurons, while sparing the peptidergic neurons (see Vulchanova *et al*. Role of IB4-binding sensory neurons in the effects of intradermal capsaicin injection. *Soc Neurosci Mtg, New Orleans LA*, 2000 Abstract #212.7 and Tarpley *et al*. Contribution of IB-4-positive sensory neurons to NGF-induced hyperalgesia in the rat. *Soc Neurosci Mtg, New Orleans LA*, 2000 Abstract #633.18).

Upon binding to the alpha-glactosyl group expressed on the cell surface, IB4-SAP becomes internalized and saporin inhibits protein synthesis, resulting in the elimination of the neurons. The cytotoxin is extremely potent, with an ED_{50} of 80 pM for alpha-galactosyl-expressing cells *in vitro*. For an excellent discussion of these two classes of primary afferents, see Basbaum AI. Distinct neurochemical features of acute and persistent pain. *Proc Natl Acad Sci USA* 96:7739-7743, 1999.



More Products for Pain Research

Substance P-Saporin
Stable Substance P-Saporin
Dermorphin-Saporin

NK-1 Receptor Antibody
TrkA Antibody

Coming Soon! **TrkA-Saporin**

Featured Neuroscience Antibodies: Nerve Growth Factor (p75) receptor

AB-N01 Anti-p75 monoclonal

Species Reactivity: mouse (low affinity nerve growth factor receptor)
Applications: immunohistochemistry (cells, tissue); immunoprecipitation; immunoblotting; blocks function of nerve growth factor
Reference: Huber and Chao. *Devel Biol* 167:227-238, 1995.

AB-N02 Anti-p75 monoclonal

Species Reactivity: mouse (low affinity nerve growth factor receptor)
Applications: immunohistochemistry; immunocytochemistry; immunoprecipitation
Reference: Rao MS and Anderson DJ. *J Neurobiol* 32(7):722-746, 1997.

AB-N07 Anti-p75 monoclonal

Species Reactivity: multiple: human, primate, rabbit, sheep, dog, cat, hamster, pig
Applications: immunohistochemistry; Western blot; electron microscopy; immunoprecipitation
Reference: Ross AH *et al*. *Proc Natl Acad Sci USA* 81:6681-6685, 1984.

Visit the ATS website for a complete list of antibodies.

Kristina Majer, an ATS Researcher, works on antibody development and quality control assays.