

Targeting Topics: Recent Scientific References

Reviewed by *Matthew Kohls*

Neuroprotective effects of testosterone on dendritic morphology following partial motoneuron depletion: efficacy in female rats

Wilson RE, Coons KD, Sengelaub DR
Neurosci Lett 465(2):123-127, 2009.

Previous work demonstrated a protective effect from testosterone in a motoneuron nerve injury model for male rats. This work investigated whether testosterone has the same effect in females. Female rats received 2 µg of CTB-SAP (Cat. #IT-14) into the left vastus medialis muscle. 4 weeks later surviving motoneurons were visualized with CTB conjugated to HRP. Testosterone treatment greatly attenuated the atrophy seen in control animals, suggesting that testosterone is also a neurotherapeutic agent in females.

CTB-SAP

a chemical conjugate of the cholera toxin B-subunit and saporin

Proteomic analysis uncovers novel actions of the neurosecretory protein VGF in nociceptive processing

Riedl MS, Braun PD, Kitto KF, Roiko SA, Anderson LB, Honda CN, Fairbanks CA, Vulchanova L
J Neurosci 29(42):13377-13388, 2009.

Peripheral tissue injury can alter protein expression in sensory neurons, which may contribute to abnormal nociceptive processing. The authors used cultured dorsal root ganglion neurons as a model for axotomized neurons to examine early changes in protein expression after nerve injury. Several different parameters were measured, including immunohistochemistry using anti-TrkA (Cat. #AB-N03). The data show an increased level of a putative neuropeptide precursor, VGF, as a result of nerve injury.

This antibody recognizes rat trkA (high affinity nerve growth factor receptor).

Anti-trkA was developed in rabbit using the extracellular fragment from rat trkA (amino acids 1-416); purified by protein A chromatography.



Amyloid-beta expression in retrosplenial cortex of triple transgenic mice: relationship to cholinergic axonal afferents from medial septum

Robertson RT, Baratta J, Yu J, LaFerla FM
Neuroscience 164(3):1334-1346, 2009.

In this work the authors developed a model to examine the relationship between afferent projections and the formation of amyloid-beta (Aβ) deposits. Mice received 1.86-µg unilateral injections of mu p75-SAP (Cat. #IT-16) into the lateral ventricle. Lesioned animals had persistent Aβ immunoreactivity in layer III of the granular division of retrosplenial cortex (RSg). This data indicates that septal cholinergic axonal projections transport Aβ or amyloid precursor protein to layer III of the RSg.

mu p75-SAP

a chemical conjugate of the affinity-purified rabbit polyclonal antibody p75NTR (Cat. #AB-N01AP) and saporin

Serotonin Transport and Metabolism in the Mammary Gland Modulates Secretory Activation and Involution

Marshall AM, Nommsen-Rivers LA, Hernandez LL, Dewey KG, Chantry CJ, Gregerson KA, Horseman ND
J Clin Endocrinol Metab 2009.

Serotonin is known to be a local regulator of lactation homeostasis. This work examined the roles of the serotonin reuptake

transporter (SERT) and monoamine oxidase in this system. Immunohistochemical and immunocytochemical staining was done on human primary mammary epithelial cells and mouse tissue with a SERT antibody (Cat. #AB-N09). Additional data included epidemiological studies and selective serotonin reuptake inhibitor treatment of mice. The results suggest that women taking SSRI inhibitor medications were more likely to experience delayed secretory activation.

This antibody recognizes cells that express SERT in rat, human, and mouse. The immunogen is a peptide from the fourth extracellular domain of the rat SERT. This antibody was produced in tissue culture supernatants. The antibody is routinely tested by flow cytometry.

Nitrous oxide-induced analgesia does not influence nitrous oxide's immobilizing requirements

Jinks SL, Carstens E, Antognini JF
Anesth Analg 109(4):1111-1116, 2009.

Noradrenergic neurons in the locus coeruleus (LC) are involved with the analgesic action of nitrous oxide (N₂O). In order to examine whether these neurons are also involved with the immobilizing effects of N₂O, rats received 4-µg intracerebroventricular injections of anti-DBH-SAP (Cat. #IT-03). Mouse IgG-SAP (Cat. #IT-18) was used as a control. Lesioned animals did not experience the analgesic effects of N₂O, but the

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