Targeting Topics: Recent Scientific References

(continued from page 3)

the ventral tegmental area with anti-DAT-SAP (Cat. #IT-25). A 21-µg icv injection produced a highly significant loss of midbrain dopaminergic neurons, creating a useful model for Parkinson's disease.

Cholinergic activity enhances hippocampal long-term potentiation in CA1 during walking in rats.

Leung LS, Shen B, Rajakumar N, Ma J
J Neurosci 23(28):9297-9304, 2003

To investigate the role of the cholinergic system in long term potentiation (LTP) the authors lesioned the left and right medial septum of rats with 0.14 µg of 192-Saporin (Cat. #IT-01). LTP induced in lesioned walking animals is less robust than in control animals.

Early microglial activation following neonatal excitotoxic brain damage in mice: a potential target for neuroprotection.

Dommergues MA, Plaisant F, Verney C, Gressens P
Neuroscience 121(3):619-628, 2003

Brain lesions that mimic damage from cerebral palsy in mice are characterized by microglial activation within 24 hours of insult. Using intraperitoneal injections of Mac-1-SAP (90 µg/kg, Cat. #IT-06), a reduction in the density of resident microglial and blood-derived monocytes was obtained.

Hindbrain noradrenergic lesions attenuate anorexia and alter central cFos expression in rats after gastric viscerosensory stimulation.

Rinaman L
J Neurosci 23(31):10084-10092, 2003

Using 5-ng injections of anti-DBH-SAP (Cat. #IT-03) into hindbrain nucleus of the solitary tract in rats, the author investigated the role of DBH-positive neurons in the mediation of anorexigenic and central nervous system activation effects due to exogenous CCK.

Differential effects of cholinergic lesions on dendritic spines in frontal cortex of young adult and aging rats.

Harmon KM, Wellman CL
Brain Res 992:60-68, 2003

The authors used 0.15 µg of 192-Saporin (Cat. #IT-01) injected into the nucleus basalis magnocellularis of rats to study whether dendritic spine density is altered by cholinergic deafferentation. While the spine density decreased in young rats, middle-aged and aged animals did not display a density significantly different than controls.

A combinatorial network of evolutionarily conserved myelin basic protein regulatory sequences confers distinct glial-specific phenotypes.

Farhadi HF, Lepage P, Forghani R, Friedman HC, Orfali W, Jasmin L, Miller W, Hudson TJ, Peterson AC
J Neurosci 23(32):10214-10223, 2003

The authors used intrathecal injections of 0.3 µg CTB-SAP (Cat. #IT-14) to induce spinal cord demyelination for the purpose of defining the regulatory network controlling myelin basic protein transcription in mice.

Does the release of acetylcholine in septal slices originate from intrinsic cholinergic neurons bearing p75^{NTR} receptors? A study using 192 IgG-saporin lesions in rats.

Birthelmer A, Lazaris A, Riegert C, Marques Pereira P, Koenig J, Jeltsch H, Jackisch R, Cassel JC
Neuroscience 122(4):1059-1071, 2003

The authors used 0.8 µg injections of 192-Saporin (Cat. #IT-01) into the medial septum and diagonal band of Broca to investigate whether release of acetylcholine was due to neurons expressing the p75 ^{NTR}.

Cytochrome oxidase activity in the monkey globus pallidus and subthalamic nucleus after ablation of striatal interneurons expressing substance P receptors.

Chiken S, Hatanaka N, Tokuno H
Neurosci Lett 353(2):103-106, 2003

1-6 µl of 15-20 ng/µl SP-SAP (Cat. #IT-07) was injected into the forelimb representation of the putamen. Animals were examined for the loss of interneurons as well as regional metabolic changes. The results indicate that substance P receptor-expressing neurons do not modulate inhibitory influences on the GP.

Macrophage-derived IL-18 targeting for the treatment of Crohn's disease.

Kanai T, Uraushihara K, Okazawa A, Hibi T, Watanabe M
Curr Drug Targets Inflamm Allergy 2(2):131-136, 2003

A single intravenous injection of Mac-1-SAP (Cat. #IT-06) significantly reduced the amount of intestinal inflammation in a 2, 4, 6-trinitrobenzene sulfonic acid-induced colitis model.

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