Targeting Topics: Recent Scientific References

(continued from page 3)

Secondary hyperalgesia in the monoarthritic rat is mediated by GABA(B) and NK1 receptors of spinal dorsal horn neurons: A behavior and c-fos study.

Castro AR, Pinto M, Lima D, Tavares I
Neuroscience 141(4):2087-2095, 2006.

Hallmarks of secondary hyperalgesia in a rat model of monoarthritic pain are: decreased activation of GABA(B) neurons, and increased activation of NK-1r neurons. Using 10-μl injections of 1-μM SP-SAP (Cat. #IT-07) into T(13)-L(1) the authors looked at the role of each receptor. Results indicate that both GABA(B) and NK-1r are involved in secondary hyperalgesia.

Adenosine and sleep homeostasis in the basal forebrain.

Blanco-Centurion C, Xu M, Murillo-Rodriguez E, Gerashchenko D, Shiromani AM, Salin-Pascual RJ, Hof PR,Shiromani PJ
J Neurosci 26(31):8092-8100, 2006.

The authors investigated whether basal forebrain cholinergic neurons are involved in adenosine regulation of sleep. 6 μg of 192-IgG-SAP (Cat. #IT-01) was administered to the lateral ventricle of rats. In treated animals, adenosine levels did not increase with prolonged waking.

The nuclear DNA repair protein Ku70/80 is a tumor-associated antigen displaying rapid receptor mediated endocytosis.

Fransson J, Borrebaeck CA
Int J Cancer Epub Aug 23, 2006.

In this study, the authors show that Ku70/80 is internalized into pancreatic carcinoma cells upon binding of the antibody INCA-X. INCA-X was combined with Mab-ZAP (Cat. #IT-04) and applied to several pancreatic carcinoma cell lines *in vitro*. Cell death in some of the treated lines demonstrates the potential of Ku70/80 as a therapeutic target.

Neurokinin-1 receptor expressing neurons in the ventral medulla are essential for normal central and peripheral chemoreception in the conscious rat.

Nattie E, Li A
J Appl Physiol Epub Aug 10, 2006.

The authors ask if neurokinin-1 receptor (NK-1r)-positive cells scattered throughout the ventral medulla are involved in central and peripheral chemoreception. Rats received 250-280 ng of SSP-SAP (Cat. #IT-11) into the cisterna magna; mouse IgG-SAP (Cat. #IT-18) was used as a control. The results indicate that NK-1r neurons in the ventral medulla are involved in both central and peripheral chemoreception, during both waking and sleep states.

Purkinje cell loss by OX7-saporin impairs acquisition and extinction of eyeblink conditioning.

Nolan BC, Freeman JH
Learn Mem 13(3):359-365, 2006.

This work examines the effect of a global depletion of Purkinje cells in the cerebellar cortex on delay eyeblink conditioning in rats. 15 μg of OX7-SAP (Cat. #IT-02) was infused into the left lateral ventricle 2 weeks prior to training. Purkinje cell loss in the anterior lobe and lobule HVI correlated with impaired acquisition and extinction of delay eyeblink conditioning.

Descending facilitation from the rostral ventromedial medulla maintains nerve injury-induced central sensitization.

Vera-Portocarrero LP, Zhang ET, Ossipov MH, Xie JY, King T, Lai J, Porreca F
Neuroscience 140(4):1311-1320, 2006.

Rats were treated with 1.5 pmol of dermorphin-SAP (Cat. #IT-12) or saporin (Cat. #PR-01) into each side of the rostral ventromedial medulla, followed by spinal nerve ligation. The data indicate that mu opioid-expressing neurons are necessary to maintain nerve injury-induced central sensitization.

Local and descending circuits regulate long-term potentiation and zif268 expression in spinal neurons.

Rygh LJ, Suzuki R, Rahman W, Wong Y, Vonsy JL, Sandhu H, Webber M, Hunt S, Dickenson AH
Eur J Neurosci 24(3):761-772, 2006.

Long-term potentiation (LTP) has been shown to occur in sensory areas of the spinal cord and may be one of the mechanisms by which acute pain is transformed into chronic pain. 10 μl of 1μM SP-SAP (Cat. #IT-07) or saporin (Cat. #PR-01) were injected into the subarachnoid space (L4-L5) of rats. The authors demonstrate that dorsal horn neuron generation of LTP may transform acute pain into chronic pain.

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