

# Targeting Topics: Recent Scientific References

(continued from page 3)

## Neurotransmitter release and its presynaptic modulation in the rat hippocampus after selective damage to cholinergic or/and serotonergic afferents

Birtheimer A, Ehret A, Amtage F, Förster S, Lehmann O, Jeltsch H, Cassel JC, Jackisch R  
*Brain Res Bull* 59(5):371-381, 2003

Previous studies have investigated some of the modulatory mechanisms present in the denervated hippocampus. These studies have used nonselective denervation models, therefore it is difficult to assign results to the lesion of any specific system. This study examined the interaction of lesions caused by 192-Saporin (Cat. #IT-01, 0.4 µg injected into the medial septum/diagonal band of Broca) and 5,7-DHT. The authors were able to establish controlled and selective damage to more than one transmitter system, allowing examination of the interaction between multiple-lesioned systems.

## A group of glutaminergic interneurons expressing high levels of both neurokinin-1 receptors and somatostatin identifies the region of the pre-Bötzing complex

Stornetta RL, Rosin DL, Wang H, Sevigny CP, Weston MC, Guyenet PG  
*J Comp Neurol* 455(4):499-512, 2003

Study of the pre-Bötzing complex (pre-BötC) has been hindered by the lack of a specific marker. Using SSP-SAP (Cat. #IT-11, three 0.313-ng unilateral injections in the rostral part of the ventral respiratory group) coupled with *in situ* hybridization and the labeling of selected markers, the authors examined whether somatostatin (SST) might be a marker for this region. The data suggest that a subgroup of cells containing high levels of SST and neurokinin-1 receptor immunoreactivity may identify the pre-BötC.

## Effects of septal cholinergic lesion on rat exploratory behavior in an open-field

Lamprea MR, Cardenas FP, Silveira R, Walsh TJ, Morato S  
*Braz J Med Biol Res* 36(2):233-238, 2003

Exploratory behavior triggered by novelty involves the medial septum. The authors lesioned the medial septum in rats with 237.5-ng injections of 192-Saporin (Cat. #IT-01) and examined the behavior of these animals in a model for novelty. The results suggest not only do septohippocampal cholinergic mechanisms contribute to the motivation to explore new environments, they also are related to the acquisition and storage of spatial information.



## Selective joint denervation promotes knee osteoarthritis in the aging rat

Salo PT, Hogervorst T, Seerattan RA, Rucker D, Bray RC  
*J Orthop Res* 20(6):1256-1264, 2002

Noting that mice lose joint afferents with aging, and that this loss precedes osteoarthritis development, the authors investigated the effects of denervating the knee joints of young rats. Injection of 10 µl OX7-SAP (Cat. #IT-02) into the knee joint space produced severe degenerative cartilage changes as well as a significant reduction in the number of

joint afferents. These changes indicate that joint denervation predisposes a joint to osteoarthritic changes more severe than those found with aging alone.

## Neurobiology of substance P and the NK1 receptor

Mantyh PW  
*J Clin Psychiatry* 63(Suppl 11):6-10, 2002

The NK-1 receptor system is somewhat unusual in that it is expressed on only 5-7% of neurons in the central nervous system. Dr. Patrick Mantyh reviews how tools such as SP-SAP (Cat. #IT-07) have been used to begin defining the roles of substance P and the NK-1 receptor in affective behavior.

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targeted toxins, antibodies  
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### Arranged by Product:

- 192-Saporin (295)
- Anti-DBH-SAP (55)
- SP-SAP (24)
- OX7-SAP (16)
- ME20.4-SAP (15)
- Dermorphin-SAP (14)
- SSP-SAP (14)
- Orexin-SAP (9)
- IB4-SAP (9)