Targeting Topics: Recent Scientific References

(continued from page 3)

Macrophage-Derived IL-18-Mediated Intestinal Inflammation in the Murine Model of Crohn's Disease

Kanai T, Watanabe M, Okazawa A, Sato T, Yamazaki M, Okamoto S, Ishii H, Totsuka T, Iiyama R, Okamoto R, Ikeda M, Kurimoto M, Takeda K, Akira S, and Hibi T
Gastroenterol 121:875-888, 2001

Crohn's disease is an inflammatory bowel disease that is associated with several changes in the immune system, including an increased number of infiltrating macrophages. These macrophages release a variety of cytokines that are responsible for inflammation. The authors investigated the role of these macrophages in a mouse model by eliminating them with Mac-1-SAP (20 µg parenterally in tail vein; Cat. #IT-06). Seven days after treatment, mice showed no evidence of intestinal inflammation. These data demonstrate the role of macrophages in the development of inflammatory bowel conditions.

The Effects of Manipulations of Attentional Demand on Cortical Acetylcholine Release

Himmelheber AM, Sarter M, Bruno JP
Cogn Brain Res 12:353-370, 2001

Cortical cholinergic afferents from the basal forebrain are suspected to be involved in attentional tasks. Regulatory impairment of these afferents has been hypothesized to contribute to attentional deficits seen in conditions as diverse as Alzheimer's disease and schizophrenia. The authors have previously shown that 192-Saporin (Cat. #IT-01) lesions result in severe impairments in tasks requiring sustained attentional processing. In these experiments the authors suggest that cell response is dependent on the level of demand. They demonstrate that removal of p75+ cells (0.5 µg/µl bilaterally infused into the nucleus basalis region in rat) impairs sustained attentional performance, but does not impact low-demand task performance.

Long-Term Intrathecal Catheterization in the Rat

Jasmin L, Ohara PT
J Neurosci Meth 110:81-89, 2001

The authors have developed a method that allows repeated administration of drugs with minimal stress to an experimental animal. To test the efficacy of this intrathecal catheter, they injected anti-DBH-SAP (5 µg; Cat. #IT-03,) and investigated the noradrenergic denervation of the spinal cord. All animals treated with anti-DBH-SAP showed extensive loss of spinal noradrenergic ennervation. Even three months after catheter implantation, the elimination of noradrenergic neurons in the spinal cord could be produced. This indicates the intrathecal catheter is an effective tool for the study of multiple-dose drug delivery.

Differential Changes in Rat Cholinergic Parameters Subsequent to Immunotoxic Lesion of the Basal Forebrain Nuclei

Waite JJ, Chen AD
Brain Res 918:113-120, 2001

192-Saporin (Cat. #IT-01) is used extensively to eliminate the cholinergic neurons of the basal forebrain in rats. Waite and Chen compare the degree of loss between 192-Saporin (6 or 8.2 µg in 10 µl into left lateral ventricle) and control (Saporin, 1.82 µg into left lateral ventricle; Cat. #PR-01) using three methods: Assay of post mortem choline acetyltransferase activity, *in vivo* microdialysis of extracellular acetylcholine (ACh), and *in vivo* assessment of the rate of ACh synthesis. The infusion of saporin alone had no effect. After fifteen weeks, the authors report compensation of cholinergic activity in lesioned animals occurs in the hippocampus, but not in the frontal cortex as determined by measurement of the rate of ACh synthesis.

Please visit our website (www.ATSbio.com) to see a complete list of references.