Oct-Nov-Dec 2002
Volume 3, Issue 4

Targeting Trends

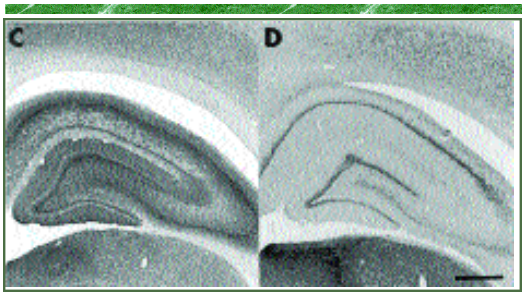
Reporting the latest news in Molecular Surgery

Does 192-IgG-Saporin or 5,7-DHT kill cognitive functions in the rat?

Contributed by Jean-Christophe Cassel, PhD, Laboratoire de Neurosciences Cognitives et Comportementales, UMR 7521 Université Louis Pasteur/CNRS, Strasbourg, France & Institut für Experimentelle und Klinische Pharmakologie und Toxikologie der Universität Freiburg, Neuropharmakologisches Labor, Freiburg, Germany. Dr. Cassel and colleagues are the authors of four publications released this quarter using 192-Saporin.

Trying to understand how various neuroanatomically- and/or neurochemically-defined systems of the brain contribute to elaborate functional outputs at an integrated level – including behavior – roughly relies on two types of approaches. The first consists of exploring brain regions while functional outputs are prepared or expressed (*e.g.* EEG). The second approach uses more invasive tools (*e.g.* lesions), alters brain structures, pathways or transmitter systems, and measures functional consequences. One problem with the second approach concerns the neuroanatomical and/or neurochemical selectivity. The more selective the lesion of a particular system in the brain, the more a functional alteration can be linked to the operations enabled by the system. 192 IgG-Saporin has emerged as the most selective toxin to lesion the cholinergic neurons of the basal forebrain. As such, this immunotoxin enables exploration of the contribution to cognitive functions of the septohippocampal and basalocortical cholinergic projection systems while considering the "cholinergic hypothesis of geriatric dysfunctions" proposed by Bartus in 1982.[1] From the first behavioral studies with 192 IgG-Saporin lesions, it became evident that cognitive deficits were not as large as expected from previous studies relying on less selective

(continued on page 6)



AChE-positive staining patterns in occipital and parietal cortices surrounding hippocampus. Note decrease in staining in rats treated with 192-IgG-Saporin and 5,7-DHT(D) as opposed to sham (C).
Scale bar, 750 µm
Adapted from Lehmann *et al.* (2002) *Eur J Neurosci* 15:1991-2006.
Printed with permission from the Federation of European Neuroscience Societies

SP-SAP Efficacy Reported at IASP 10th World Congress on Pain

Clinicians and scientists alike were talking about SP-SAP at the August meeting of the International Association for the Study of Pain. During the pre-meeting Refresher Courses, Drs. Alan Basbaum, Patrick Mantyh, and Stephen Hunt explained to an audience of mainly physicians how SP-SAP eliminates neurons that send the chronic pain signal to the brain. Scientists from five different laboratories presented their findings on SP-SAP and other ATS products during poster and slide presentations (see page 5).

Cell Targeting Technologies is currently seeking investors to take SP-SAP into clinical trials for the treatment of chronic pain.

Inside this issue:

Newsletter Highlights

Denise Higgins, Editor

ADVANCED TARGETING SYSTEMS