Targeting Tools: Featured Products

Stimulate Instead of Eliminate

SP-CTA (Cat. #IT-39) is an exciting new tool for use in the research of neurokinin (NK-1) receptor-expressing cells of the central nervous system. A conjugate of the substance P molecule and the catalytic subunit of Cholera toxin, this product can be used very effectively *in vivo* for increasing sensitization of these neuronal cells. Selectively targeting the NK-1r-expressing cells with the substance P moiety allows the researcher to stimulate only the cells of interest by amplifying their cAMP production with the CTA, without altering the neighboring cells. This effect lasts for a few days, and gives the researcher an opportunity to study behaviors such as those related to the perception of pain or the control of breathing. See Figure 1 and Cover article of *Targeting Trends Vol. 8, Iss. 4.*

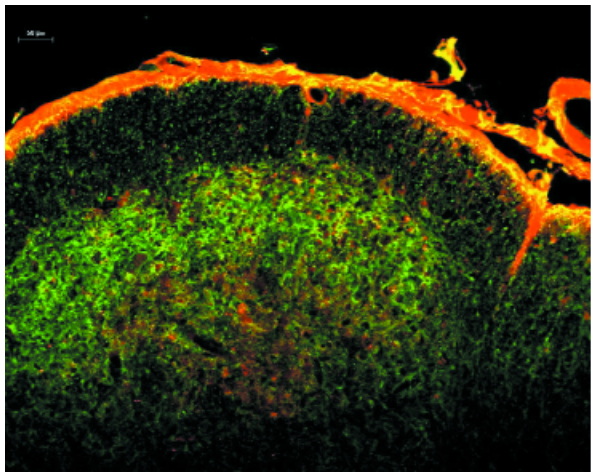


Figure 1. Immunohistochemical localization of SP-CTA uptake in the dorsal horn of the cervical spinal cord. SP-CTA (10 μg) was injected intracisternally into rats via a percutaneous puncture under isoflurane anesthesia. One hour later the animals were euthanized and sections (20 μ) of the brain stem and cervical spinal cord were prepared for immunohistochemistry. Immunofluorescence co-labeling for the NK1 receptor (Green) and for CTA (Red) was performed. CTA was found only in neurons co-labeled with NK1 receptor. Note that at this time point a significant amount of the cholera toxin subunit is still on the surface of the cord.

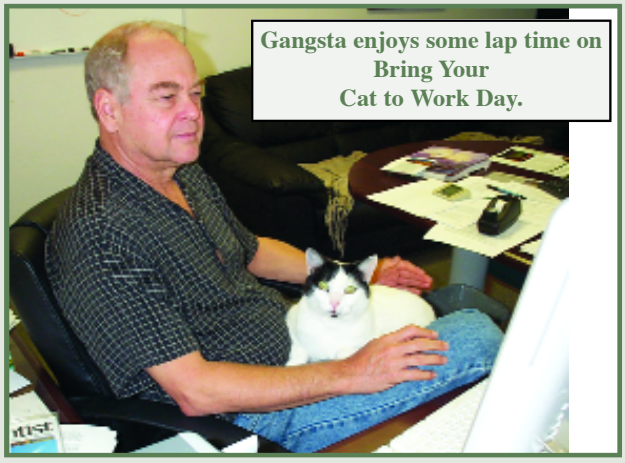
Anti-AChR (mAb 35) Rat Monoclonal

Species Reactivity: Human, Rat, Mouse, Rabbit

Anti-AChR (Cat. #AB-N36) binds with high affinity to the AChR subtype with 59 kDa ACh-binding subunits, but with considerably lower affinity to the AChR subtype with 75 kDa subunits. Anti-AChR binds to the main immunogenic region on α1 subunits of muscle-type AChRs.[1]

Reference

1. Schoepfer R, Halvorsen SW, Conroy WG, Whiting P, Lindstrom J. *FEBS Lett*. 1989 Nov 6;257(2):393-9.



Targeting FGF Receptors

FGF-2, or basic fibroblast growth factor, binds all of the FGF receptors with high affinity. We have used this molecule to produce FGF-SAP (Cat. #IT-38), which has a healthy experimental publication record ("FGF" and "saporin" in PubMed: 25 hits). It has been used to clean primary cultures of fibroblasts.[1] It was important in determining the role of smooth muscle cells in restenosis of damaged vasculature.[2] It was widely used *in vivo* for the elimination of FGF receptor-expressing cells, including neuronal cell types,[3] cancer cells,[4] and lens epithelial cells.[5] This conjugate will be useful for the study of systems biology.

References

1. Beattie GM, Lappi DA, Baird A, Hayek A (1990) *Diabetes* 39:1002.
2. Lindner V, Lappi DA, Baird A, Majack RA, Reidy MA (1991) *Circulation Res* 68:106.
3. Gonzalez AM, Lappi DA, Buscaglia ML, Carman LS, Gage FH, Baird A (1991) *Ann NY Acad Sci* 638:442.
4. Beitz JG, Davol-Lewis P, Clark JW, Kato J, Medina M, Frackelton AR, Lappi DA, Baird A, Calabresi P (1992) *Cancer Res* 52:227.
5. David T, Tassin J, Lappi DA, Baird A, Courtois Y (1992) *J Cell Physiol* 153:483.