

ST (N-14): sc-14514

BACKGROUND

The members of the G protein-coupled receptor family are distinguished by their slow transmitting response to ligand binding. These seven transmembrane proteins include the adrenergic, serotonin and dopamine receptors. The effect of the signaling molecule can be excitatory or inhibitory depending on the type of receptor to which it binds. Members of the β -Arrestin family regulate receptor binding to G proteins. β -Arrestins have been found to be located at postsynaptic sites, where they are thought to act in concert with β ARK (β ARK1, also designated GRK 2; or β ARK2, also designated GRK 3) to regulate G protein-coupled neurotransmitter receptors. Expression of β -Arrestin-1 and β -Arrestin-2 is seen predominantly in spleen and neuronal tissues. It has been shown that β -Arrestin-1 expression is modulated by intracellular cAMP, which may be a novel mechanism for the regulation of receptor-mediated responses. The Na/Cl-dependent ST (SLC6A4) functions to clear serotonin from the synaptic cleft. Many tricyclic antidepressants and serotonin selective reuptake inhibitors appear to act on this transporter. SSRIs function by increasing the amount of time serotonin remains in the synaptic cleft. The presence of active ST is vital for proper emotional development within the brain.

REFERENCES

- Cotecchia, S., et al. 1990. Multiple second messenger pathways of α -adrenergic receptor subtypes expressed in eukaryotic cells. *J. Biol. Chem.* 265: 63-69.
- Levy, F.O., et al. 1992. Molecular cloning of a human gene (S31) encoding a novel serotonin receptor mediating inhibition of adenylyl cyclase. *FEBS Lett.* 296: 201-206.
- Ramamoorthy, S. et al. 1993. Antidepressant- and cocaine-sensitive human serotonin transporter: molecular cloning, expression, and chromosomal localization. *Proc. Natl. Acad. Sci. USA* 90: 2542-2546.
- Hediger, M.A., et al. 1995. Mammalian ion-coupled solute transporters. *J. Phys.* 482: 7S-17S.

CHROMOSOMAL LOCATION

Genetic locus: SLC6A4 (human) mapping to 17q11.2; Slc6a4 (mouse) mapping to 11 B5.

SOURCE

ST (N-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of ST of human origin.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-14514 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

RESEARCH USE

For research use only, not for use in diagnostic procedures.

APPLICATIONS

ST (N-14) is recommended for detection of serotonin transporter of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

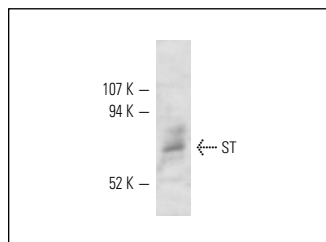
ST (N-14) is also recommended for detection of serotonin transporter in additional species, including equine, canine and bovine.

Suitable for use as control antibody for ST siRNA (h): sc-36565, ST siRNA (m): sc-36566, ST shRNA Plasmid (h): sc-36565-SH, ST shRNA Plasmid (m): sc-36566-SH, ST shRNA (h) Lentiviral Particles: sc-36565-V and ST shRNA (m) Lentiviral Particles: sc-36566-V.

Molecular Weight of ST: 70 kDa.

Positive Controls: rat brain extract: sc-2392, human brain hippocampus extract: sc-364375 or SCC-4 whole cell lysate: sc-364363.

DATA



ST (N-14): sc-14514. Western blot analysis of ST expression in SCC-4 whole cell lysate.

SELECT PRODUCT CITATIONS

- Linder, A.E., et al. 2008. A serotonergic system in veins: serotonin transporter-independent uptake. *J. Pharmacol. Exp. Ther.* 325: 714-722.
- Linder, A.E., et al. 2008. Vascular reactivity, 5-HT uptake, and blood pressure in the serotonin transporter knockout rat. *Am. J. Physiol. Heart Circ. Physiol.* 294: H1745-H1752.
- Delaney, C., et al. 2011. Pulmonary vascular effects of serotonin and selective serotonin reuptake inhibitors in the late-gestation ovine fetus. *Am. J. Physiol. Lung Cell. Mol. Physiol.* 301: L937-L944.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.



Try **ST (24A5): sc-33724**, our highly recommended monoclonal alternative to ST (N-14).