

CHT1 (CT1): sc-52520

BACKGROUND

Under physiological conditions, $\text{Na}^+\text{-Cl}^-$ -dependent hemicholinium-3 (HC-3)-sensitive, high-affinity choline uptake limits the rate of acetylcholine synthesis in cholinergic neurons. HC-3-sensitive high-affinity choline transporter (CHT1) carries out this uptake. Regions of the nervous system that are rich with cholinergic cell bodies, such as the spinal cord, brainstem, mid-brain and striatum, express CHT at high levels, whereas tissues lacking cholinergic cells, such as the cerebellum and kidney, show no CHT1 expression. CHT1 localizes to a subpopulation of small vesicles, which also contain vesicular acetylcholine transporter and acetylcholine, within the cholinergic presynaptic terminals. In response to neuronal activity, these particular vesicles trans-locate to the plasma membrane to re-uptake choline, a process that, due to the other contents of the vesicle, may be coupled with the rate of ACh release.

REFERENCES

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2. Apparsundaram, S., et al. 2000. Molecular cloning of a human, hemicholinium-3-sensitive choline transporter. *Biochem. Biophys. Res. Commun.* 276: 862-867.
3. Apparsundaram, S., et al. 2001. Molecular cloning and characterization of a murine hemicholinium-3-sensitive choline transporter. *Biochem. Soc. Trans.* 29: 711-716.
4. Haberberger, R.V. et al. 2002. Expression of the high-affinity choline transporter, CHT1, in the neuronal and non-neuronal cholinergic system of human and rat skin. *J. Invest. Dermatol.* 119: 943-948.
5. Ferguson, S.M., et al. 2003. Vesicular localization and activity-dependent trafficking of presynaptic choline transporters. *J. Neurosci.* 23: 9697-9709.
6. Ribeiro, F.M., et al. 2003. The hemicholinium-3 sensitive high affinity choline transporter is internalized by clathrin-mediated endocytosis and is present in endosomes and synaptic vesicles. *J. Neurochem.* 87: 136-146.

SOURCE

CHT1 (CT1) is a mouse monoclonal antibody raised against thymocytes of chicken origin.

PRODUCT

Each vial contains 100 μg IgG₁ in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

CHT1 (CT1) is recommended for detection of CHT1 antigen on chicken thymocytes of avian origin by immunoprecipitation [1-2 μg per 100-500 μg of total protein (1 ml of cell lysate)] and flow cytometry (1 μg per 1×10^6 cells).

Molecular Weight of CHT1: 65 kDa.

STORAGE

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

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.