

CHT1 (62-2ES): sc-33713

BACKGROUND

Under physiological conditions, Na⁺-Cl⁻-dependent hemicholinium-3 (HC-3)-sensitive, high-affinity choline uptake limits the rate of acetylcholine synthesis in cholinergic neurons. Hemicholinium-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 translocate 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.

CHROMOSOMAL LOCATION

Genetic locus: SLC5A7 (human) mapping to 2q12.3; Slc5a7 (mouse) mapping to 17 C.

SOURCE

CHT1 (62-2ES) is a mouse monoclonal antibody raised against recombinant protein from the C-terminus of CHT of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

CHT1 (62-2ES) is available conjugated to agarose (sc-33713 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-33713 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-33713 PE), fluorescein (sc-33713 FITC), Alexa Fluor® 488 (sc-33713 AF488), Alexa Fluor® 546 (sc-33713 AF546), Alexa Fluor® 594 (sc-33713 AF594) or Alexa Fluor® 647 (sc-33713 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-33713 AF680) or Alexa Fluor® 790 (sc-33713 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

CHT1 (62-2ES) is recommended for detection of CHT1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for CHT1 siRNA (h): sc-44594, CHT1 siRNA (m): sc-44595, CHT1 shRNA Plasmid (h): sc-44594-SH, CHT1 shRNA Plasmid (m): sc-44595-SH, CHT1 shRNA (h) Lentiviral Particles: sc-44594-V and CHT1 shRNA (m) Lentiviral Particles: sc-44595-V.

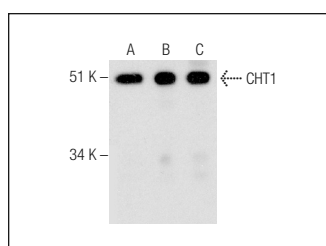
Molecular Weight of CHT1: 65 kDa.

Positive Controls: MCF7 whole cell lysate: sc-2206, A549 cell lysate: sc-2413 or TE671 cell lysate: sc-2416.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



CHT1 (62-2ES): sc-33713. Western blot analysis of CHT1 expression in MCF7 (A), TE671 (B) and A549 (C) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Rana, O.R., et al. 2010. Acetylcholine as an age-dependent non-neuronal source in the heart. *Auton. Neurosci.* 156: 82-89.
2. Rana, O.R., et al. 2011. Chronic electrical neuronal stimulation increases cardiac parasympathetic tone by eliciting neurotrophic effects. *Circ. Res.* 108: 1209-1219.
3. Li, S., et al. 2021. Multiregional profiling of the brain transmembrane proteome uncovers novel regulators of depression. *Sci. Adv.* 7: eabf0634.
4. Tassone, A., et al. 2021. Vesicular acetylcholine transporter alters cholinergic tone and synaptic plasticity in DYT1 dystonia. *Mov. Disord.* E-published.

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.