

Product datasheet for **TA328796**

Slc5a7 Rabbit Polyclonal Antibody

Product data:

Product Type:	Primary Antibodies
Applications:	IF, IHC, WB
Recommended Dilution:	WB: 1:200-1:2000; IHC: 1:100-1:3000
Reactivity:	Human, Mouse, Rat
Host:	Rabbit
Clonality:	Polyclonal
Immunogen:	Peptide (C)DWNQTAYGYDPDK, corresponding to amino acid residues 299-311 of mouse Choline Transporter. 4th extracellular loop.
Formulation:	Lyophilized. Concentration before lyophilization ~0.8mg/ml (lot dependent, please refer to CoA along with shipment for actual concentration). Buffer before lyophilization: Phosphate buffered saline (PBS), pH 7.4, 1% BSA, 0.05% NaN ₃ .
Reconstitution Method:	Add 50 ul double distilled water (DDW) to the lyophilized powder.
Purification:	Affinity purified on immobilized antigen.
Conjugation:	Unconjugated
Storage:	Store at -20°C as received.
Stability:	Stable for 12 months from date of receipt.
Gene Name:	solute carrier family 5 (choline transporter), member 7
Database Link:	NP_071308 Entrez Gene 60482 Human Entrez Gene 85426 Rat Entrez Gene 63993 Mouse Q8BGY9



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Background:

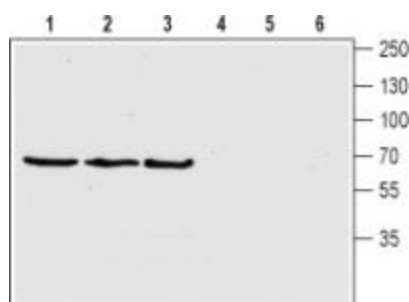
In cholinergic neurons, acetylcholine is synthesized from choline and acetyl-coenzyme A (acetyl-CoA). Following depolarization, acetylcholine is released in the synaptic cleft via synaptic vesicles and activates muscarinic and nicotinic receptors located on postsynaptic membranes. Acetylcholine released in the synaptic cleft is rapidly hydrolyzed into choline and acetate. Since choline is not de novo synthesized and thereby only made available through diet uptake, choline is recycled back into the cells in order to regenerate acetylcholine. For this purpose, choline is taken up by the high affinity choline transporter (CHT). CHT has thirteen transmembrane domains, an extracellular N-terminus and an intracellular C-terminus. CHT belongs to the Na⁺-dependent glucose transporter family (SLC5). The activity of the transporter can be confirmed by its sensitivity to hemicholinium-3 (HC-3) which inhibits the transport of choline with a K_i of 10-100 nM. The activity of CHT reflects that of neurons i.e., increased CHT activity indicates an increase in neuronal activity. The increase in the activity of the transporter is due to the increase in the number of transporters and not due to the increase in activity per se. In addition CHT activity is also regulated by second messengers. Phosphorylation of the transporter also seems to determine the activity as it has many consensus phosphorylation sites present in the C-terminal. Expression studies reveal that CHT is expressed solely in cholinergic neurons making the transporter a useful marker for detecting these types of neurons.

Synonyms:

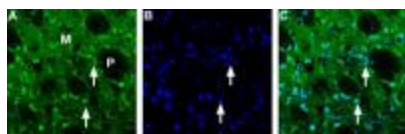
CHT; CHT1; hCHT; MGC126299; MGC126300; OTTHUMP00000203760

Note:

This antibody was tested in live cell imaging. Please see IF/ICC data for detail.

Product images:


Western blot analysis of human SH-5YSY neuroblastoma cell lysate (lanes 1 and 4), rat (lanes 2 and 5) and mouse (lanes 3 and 6) brain lysates: 1-3. Anti-Choline Transporter (CHT) (extracellular) antibody, (1:200). 4-6. Anti-Choline Transporter (CHT) (extracellular) antibody, preincubated with the control peptide antigen.



Expression of Choline Transporter in rat striatum. Immunohistochemical staining of rat frozen brain sections using Anti-Choline Transporter (CHT) (extracellular) antibody (1:200). A. Choline Transporter expression (green) is detected in the matrix (M), but not in the patches (P). B. DAPI (blue) staining provides general cellular staining. C. merge of A and B shows that Choline Transporter appears in a subset of striatal neurons (arrows provide examples).



Expression of Choline Transporter in rat PC12 cells. Immunocytochemical staining of live intact rat pheochromocytoma PC12 cells. A. Cells were stained with Anti-Choline Transporter (CHT) (extracellular) antibody, (1:100), followed by goat anti-rabbit-AlexaFluor- 594 secondary antibody (red). B. Live view of the cells. C. Merge of the two pictures.