

AChR α 5 (h4): 293T Lysate: sc-173757

BACKGROUND

Members of the ligand-gated ion channel receptor family are characterized by their fast transmitting response to neurotransmitters. Two important members of this family are the nicotinic acetylcholine and glutamate receptors, both of which are composed of five homologous subunits forming a trans-membrane aqueous pore. These transmembrane receptors change conformation in response to their cognate neurotransmitter. Nicotinic acetylcholine receptors (AChRs) are found at the postsynaptic membrane of the neuromuscular junction and bind acetylcholine molecules, allowing ions to move through the pore. Glutamate receptors are found in the postsynaptic membrane of cells in the central nervous system. The activity that is generated at the synapse by the binding of acetylcholine is terminated by acetylcholinesterase, an enzyme that rapidly hydrolyzes acetylcholine. AChR α 5, also known as LNCR2 or CHRNA5 (cholinergic receptor, nicotinic, α 5), is a 468 amino acid multi-pass membrane protein belonging to the ligand-gated ionic channel family and is involved in the mediation of fast signal transmission at synapses.

REFERENCES

1. Alkondon, M., Rao, K.S. and Albuquerque, E.X. 1988. Acetylcholinesterase reactivators modify the functional properties of the nicotinic acetylcholine receptor ion channel. *J. Pharmacol. Exp. Ther.* 245: 543-556.
2. Betz, H. 1990. Ligand-gated ion channels in the brain: the amino acid receptor superfamily. *Neuron* 5: 383-392.
3. Baenziger, J.E., Miller, K.W., McCarthy, M.P. and Rothschild, K.J. 1992. Probing conformational changes in the nicotinic acetylcholine receptor by Fourier transform infrared difference spectroscopy. *Biophys. J.* 62: 64-66.
4. Daw, N.W., Stein, P.S. and Fox, K. 1993. The role of NMDA receptors in information processing. *Annu. Rev. Neurosci.* 16: 207-222.
5. Stevens, C.F. 1993. Quantal release of neurotransmitter and long-term potentiation. *Cell* 72: 55-63.
6. Unwin, N. 1993. Neurotransmitter action: opening of ligand-gated ion channels. *Cell* 72 Suppl: 31-41.
7. Sargent, P.B. 1993. The diversity of neuronal nicotinic acetylcholine receptors. *Annu. Rev. Neurosci.* 16: 403-443.
8. Ramirez-Latorre, J., Yu, C.R., Qu, X., Perin, F., Karlin, A. and Role, L. 1996. Functional contributions of α 5 subunit to neuronal acetylcholine receptor channels. *Nature* 380: 347-351.

CHROMOSOMAL LOCATION

Genetic locus: CHRNA5 (human) mapping to 15q25.1.

PRODUCT

AChR α 5 (h4): 293T Lysate represents a lysate of human AChR α 5 transfected 293T cells and is provided as 100 μ g protein in 200 μ l SDS-PAGE buffer.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

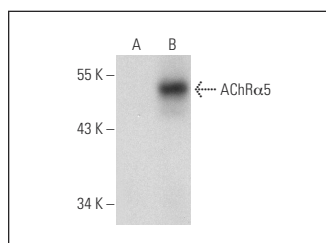
APPLICATIONS

AChR α 5 (h4): 293T Lysate is suitable as a Western Blotting positive control for human reactive AChR α 5 antibodies. Recommended use: 10-20 μ l per lane.

Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

AChR α 5 (268): sc-58606 is recommended as a positive control antibody for Western Blot analysis of enhanced human AChR α 5 expression in AChR α 5 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

DATA



AChR α 5 (268): sc-58606. Western blot analysis of AChR α 5 expression in non-transfected: sc-117752 (A) and human AChR α 5 transfected: sc-173757 (B) 293T whole cell lysates.

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.