SANTA CRUZ BIOTECHNOLOGY, INC.

AChRα5 (H-50): sc-28795

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 transmembrane aqueous pore. These transmembrane receptors change conformation in response to their cognate neurotransmitter. Nicotinic acetylcholine receptors 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.

REFERENCES

1. Alkondon, M., et al. 1988. Acetylcholinesterase reactivators modify the functional properties of the nicotinic acetylcholine receptor ion channel. J. Pharma. Exp. Thera. 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., et al. 1992. Probing conformational changes in the nicotinic acetylcholine receptor by Fourier transform infrared difference spectroscopy. Biophys. J. 62: 64-66.
4. Daw, N.W., et al. 1993. The role of NMDA receptors in information processing. Ann. Rev. Neurol. 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.

CHROMOSOMAL LOCATION

Genetic locus: CHRNA5 (human) mapping to 15q25.1; Chrna5 (mouse) mapping to 9 B.

SOURCE

AChRα5 (H-50) is a rabbit polyclonal antibody raised against amino acids 370-419 mapping within a cytoplasmic domain of AChRα5 of human origin.

PRODUCT

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

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.

APPLICATIONS

AChRα5 (H-50) is recommended for detection of AChRα5 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)], 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).

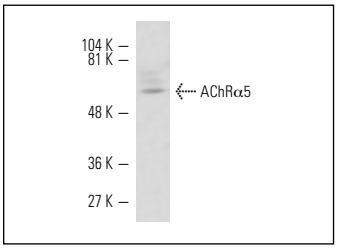
AChRα5 (H-50) is also recommended for detection of AChRα5 in additional species, including porcine.

Suitable for use as control antibody for AChRα5 siRNA (h): sc-42530, AChRα5 siRNA (m): sc-42531, AChRα5 shRNA Plasmid (h): sc-42530-SH, AChRα5 shRNA Plasmid (m): sc-42531-SH, AChRα5 shRNA (h) Lentiviral Particles: sc-42530-V and AChRα5 shRNA (m) Lentiviral Particles: sc-42531-V.

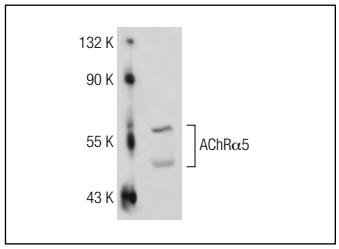
Molecular Weight of AChRα5: 53 kDa.

Positive Controls: BC_3H1 cell lysate: sc-2299 or mouse brain extract: sc-2253.

DATA



AChRα5 (H-50): sc-28795. Western blot analysis of AChRα5 expression in mouse brain tissue extract.



AChRα5 (H-50): sc-28795. Western blot analysis of AChRα5 expression in mouse brain tissue extract.

SELECT PRODUCT CITATIONS

1. Yu, W.F., et al. 2007. Postnatal upregulation of α4 and α3 nicotinic receptor subunits in the brain of α7 nicotinic receptor-deficient mice. Neuroscience 146: 1618-1628.

PROTOCOLS

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