

AChR β 3 (F-20): sc-9346

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. Alkonon, 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. Unwin, N. 1993. Neurotransmitter action: opening of ligand-gated ion channels. *Cell* 72: 31-41.
6. Stevens, C.F. 1993. Quantal release of neurotransmitter and long-term potentiation. *Cell* 72: 55-63.
7. Sargent, P.B. 1993. The diversity of neuronal nicotinic acetylcholine receptors. *Ann. Rev. Neurol.* 16: 403-443.

CHROMOSOMAL LOCATION

Genetic locus: CHRNA3 (human) mapping to 8p11.21; Chrn3 (mouse) mapping to 8 A2.

SOURCE

AChR β 3 (F-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of AChR β 3 of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-9346 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

RESEARCH USE

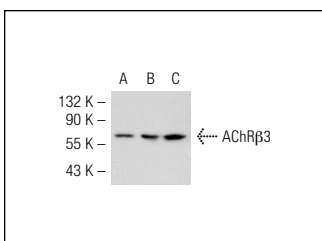
For research use only, not for use in diagnostic procedures.

APPLICATIONS

AChR β 3 (F-20) is recommended for detection of acetylcholine receptor β 3 subunit of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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).

AChR β 3 (F-20) is also recommended for detection of acetylcholine receptor β 3 subunit in additional species, including equine, canine, bovine, porcine and avian.

DATA



AChR β 3 (F-20): sc-9346. Western blot analysis of AChR β 3 expression in non-transfected 293T: sc-117752 (A), mouse AChR β 3 transfected 293T: sc-118198 (B) and SH-SY5Y (C) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Heesch, C., et al. 2002. A novel angiogenic pathway mediated by non-neuronal nicotinic acetylcholine receptors. *umbilical vein. J. Clin. Invest.* 110: 527-536.
2. Di Angelantonio, S., et al. 2003. Molecular biology and electrophysiology of neuronal nicotinic receptors of rat chromaffin cells. *Eur. J. Neurosci.* 17: 2313-2322.
3. Xiu, J., et al. 2005. Expression of nicotinic receptors on primary cultures of rat astrocytes and up-regulation of the α 7, α 4 and β 2 subunits in response to nanomolar concentrations of the α -amyloid peptide. *Neurochem. Int.* 47: 281-290.

STORAGE

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

PROTOCOLS

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