

AChR β (B3): sc-58600

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 (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.

REFERENCES

1. Alkonon, M., et al. 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., 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. *Annu. Rev. Neurosci.* 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. *Annu. Rev. Neurosci.* 16: 403-443.
8. Ramirez-Latorre, J., et al. 1996. Functional contributions of $\alpha 5$ subunit to neuronal acetylcholine receptor channels. *Nature* 380: 347-351.

CHROMOSOMAL LOCATION

Genetic locus: CHRN1 (human) mapping to 17p13.1.

SOURCE

AChR β (B3) is a mouse monoclonal antibody raised against full length AChR β of human origin.

PRODUCT

Each vial contains 250 μ l ascites containing IgG₁ with < 0.1% sodium azide.

PROTOCOLS

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

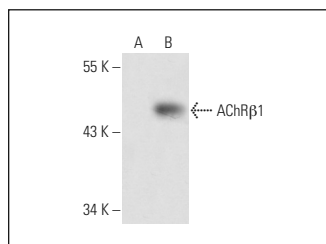
APPLICATIONS

AChR β (B3) is recommended for detection of nicotinic Acetylcholine Receptor β of human origin by Western Blotting (starting dilution to be determined by researcher, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ l per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution to be determined by researcher, dilution range 1:50-1:500), flow cytometry (1-2 μ l per 1×10^6 cells) and solid phase ELISA (starting dilution to be determined by researcher, dilution range 1:30-1:3000).

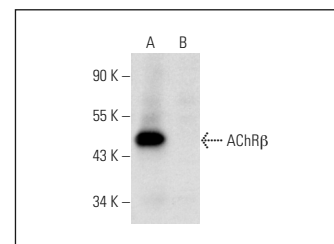
Molecular Weight of AChR β : 57 kDa.

Positive Controls: AChR β 1 (h): 293 Lysate: sc-111175.

DATA



AChR β (B3): sc-58600. Western blot analysis of AChR β 1 expression in non-transfected: sc-110760 (A) and human AChR β 1 transfected: sc-111175 (B) 293 whole cell lysates.



AChR β (B3): sc-58600. Western blot analysis of AChR β expression in human AChR β transfected: sc-111175 (A) and non-transfected: sc-110760 (B) 293 whole cell lysates.

STORAGE

For immediate and continuous use, store at 4° C for up to one month. For sporadic use, freeze in working aliquots in order to avoid repeated freeze/thaw cycles. If turbidity is evident upon prolonged storage, clarify solution by centrifugation.

RESEARCH USE

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