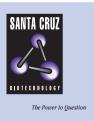
# SANTA CRUZ BIOTECHNOLOGY, INC.

# AChRα7 (306): sc-65864



#### 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

- Alkondon, 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.
- 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.
- Daw, N.W., et al. 1993. The role of NMDA receptors in information processing. Annu. Rev. Neurosci. 16: 207-222.
- 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.
- 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: CHRNA7 (human) mapping to 15q13.3.

#### SOURCE

AChR $\alpha$ 7 (306) is a mouse monoclonal antibody raised against natured and denatured  $\alpha$ 7 subunits of nicotinic AChR of chicken and rat origin.

#### PRODUCT

Each vial contains 200  $\mu g~lgG_1$  in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

#### **STORAGE**

Store at 4° C, \*\*D0 NOT FREEZE\*\*. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

#### APPLICATIONS

AChR $\alpha$ 7 (306) is recommended for detection of nicotinic AChR $\alpha$ 7 of human, rat, and chicken 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)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for AChR $\alpha$ 7 siRNA (h): sc-42532, AChR $\alpha$ 7 shRNA Plasmid (h): sc-42532-SH and AChR $\alpha$ 7 shRNA (h) Lentiviral Particles: sc-42532-V.

Molecular Weight of AChRa7: 55 kDa.

Positive Controls: PC-12 cell lysate: sc-2250 or rat brain extract: sc-2392.

#### **RECOMMENDED SECONDARY REAGENTS**

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-mouse IgG-HRP: sc-2005 (dilution range: 1:2000-1:32,000) or Cruz Marker<sup>™</sup> compatible goat anti-mouse IgG-HRP: sc-2031 (dilution range: 1:2000-1:5000), Cruz Marker<sup>™</sup> Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-mouse IgG-FITC: sc-2010 (dilution range: 1:100-1:400) or goat anti-mouse IgG-TR: sc-2781 (dilution range: 1:100-1:400) with UltraCruz<sup>™</sup> Mounting Medium: sc-24941.

## **RESEARCH USE**

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

## PROTOCOLS

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