

# AChR $\delta$ (M-20): sc-1452

## 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

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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. 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.
7. Sargent, P.B. 1993. The diversity of neuronal nicotinic acetylcholine receptors. *Annu. Rev. Neurol.* 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: CHRND (human) mapping to 2q33-q34; Chrnd (mouse) mapping to 1 C5.

## SOURCE

AChR $\delta$  (M-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of AChR $\delta$  of mouse origin.

## PRODUCT

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

Blocking peptide available for competition studies, sc-1452 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

AChR $\delta$  (M-20) is recommended for detection of the acetylcholine receptor delta subunit of mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

Positive Controls: BC3H1 cell lysate: sc-2299.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker<sup>™</sup> compatible donkey anti-goat IgG-HRP: sc-2033 (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) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz<sup>™</sup> Mounting Medium: sc-24941.

## DATA



Immunofluorescence staining of methanol-fixed BC<sub>3</sub>H1 cells showing membrane localization. Antibodies tested include AChR $\delta$  (M-20): sc-1452.

## 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.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.