

# AChR $\gamma$ (H-172): sc-13998

## 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. AChR $\gamma$  is a 517 amino acid member of the acetylcholine receptor family that plays a role in ligand binding and neuromuscular organogenesis. Mutations in the gene that encodes AChR $\gamma$  result in Escobar syndrome and a lethal form of multiple pterygium syndrome.

## 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. *Ann. Rev. Neurol.* 16: 207-222.

## CHROMOSOMAL LOCATION

Genetic locus: CHRNG (human) mapping to 2q37.1; Chng (mouse) mapping to 1 D.

## SOURCE

AChR $\gamma$  (H-172) is a rabbit polyclonal antibody raised against amino acids 335-506 mapping near the C-terminus of AChR $\gamma$  ( $\gamma$  subunit of nicotinic acetylcholine receptor) of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g 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

AChR $\gamma$  (H-172) is recommended for detection of acetylcholine receptor  $\gamma$  subunit of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (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 $\gamma$  (H-172) is also recommended for detection of acetylcholine receptor  $\gamma$  subunit in additional species, including equine, canine, bovine and porcine.

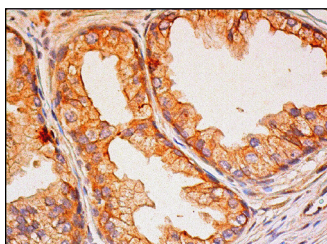
Suitable for use as control antibody for AChR $\gamma$  siRNA (h): sc-42544, AChR $\gamma$  siRNA (m): sc-42545, AChR $\gamma$  shRNA Plasmid (h): sc-42544-SH, AChR $\gamma$  shRNA Plasmid (m): sc-42545-SH, AChR $\gamma$  shRNA (h) Lentiviral Particles: sc-42544-V and AChR $\gamma$  shRNA (m) Lentiviral Particles: sc-42545-V.

Molecular Weight of AChR $\gamma$ : 58 kDa.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ 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-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz™: sc-2051 or ABC: sc-2018 rabbit IgG Staining Systems.

## DATA



AChR $\gamma$  (H-172): sc-13998. Immunoperoxidase staining of formalin fixed, paraffin-embedded human prostate tissue showing membrane and cytoplasmic staining of glandular cells.

## SELECT PRODUCT CITATIONS

1. Jonge, H., et al. 2006. Presence of SERCA and calcineurin during fetal development of porcine skeletal muscle. *J. Histochem. Cytochem.* 54: 641-648.
2. O'Leary, D.A., et al. 2007. Targeting of the ETS factor GABP $\alpha$  disrupts neuromuscular junction synaptic function. *Mol. Cell. Biol.* 27: 3470-3480.