

# AChR $\beta$ 1 (H-101): sc-11371

## 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 $\beta$ 1, also known as CHRNA, CMS1D, CMS2A, SCCMS or CHRNA1, is a 501 amino acid protein that belongs to the ligand-gated ionic channel family. Defects in the gene encoding AChR $\beta$ 1 may be the cause of congenital myasthenic syndrome slow-channel type (SCCMS), which is characterized by muscle weakness affecting the axial and limb muscles, the ocular muscles and the facial and bulbar musculature.

## CHROMOSOMAL LOCATION

Genetic locus: CHRNA1 (human) mapping to 17p13.1; ChRNA1 (mouse) mapping to 11 B3.

## SOURCE

AChR $\beta$ 1 (H-101) is a rabbit polyclonal antibody raised against amino acids 356-456 mapping near the C-terminus of AChR $\beta$ 1 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.

## APPLICATIONS

AChR $\beta$ 1 (H-101) is recommended for detection of acetylcholine receptor  $\beta$ 1 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 and 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 $\beta$ 1 (H-101) is also recommended for detection of acetylcholine receptor  $\beta$ 1 subunit in additional species, including canine, bovine and porcine.

Suitable for use as control antibody for AChR $\beta$ 1 siRNA (h): sc-29630, AChR $\beta$ 1 siRNA (m): sc-29631, AChR $\beta$ 1 shRNA Plasmid (h): sc-29630-SH, AChR $\beta$ 1 shRNA Plasmid (m): sc-29631-SH, AChR $\beta$ 1 shRNA (h) Lentiviral Particles: sc-29630-V and AChR $\beta$ 1 shRNA (m) Lentiviral Particles: sc-29631-V.

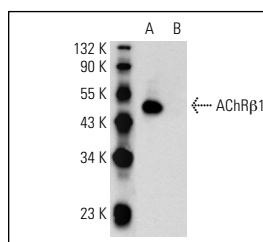
Molecular Weight of AChR $\beta$ 1: 55 kDa.

Positive Controls: AChR $\beta$ 1 (h): 293 Lysate: sc-111175, rat brain extract: sc-2392 or IMR-32 cell lysate: sc-2409.

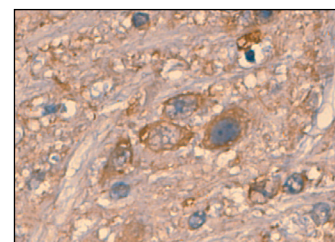
## RECOMMENDED SECONDARY REAGENTS

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<sup>™</sup> compatible goat anti-rabbit IgG-HRP: sc-2030 (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-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<sup>™</sup> Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz<sup>™</sup>: sc-2051 or ABC: sc-2018 rabbit IgG Staining Systems.

## DATA



AChR $\beta$ 1 (H-101): sc-11371. Western blot analysis of AChR $\beta$ 1 expression in human AChR $\beta$ 1 transfected 293: sc-111175 (A), non-transfected 293: sc-110760 (B) and IMR-32 (C) whole cell lysates.



AChR $\beta$ 1 (H-101): sc-11371. Immunoperoxidase staining of formalin fixed, paraffin-embedded mouse brain tissue showing membrane localization.

## SELECT PRODUCT CITATIONS

1. Vivekanandarajah, A., et al. 2015. Postnatal nicotine effects on the expression of nicotinic acetylcholine receptors in the developing piglet hippocampus and brainstem. *Int. J. Dev. Neurosci.* 47: 183-191.

## 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.

**MONOS**  
Satisfaction  
Guaranteed

Try **AChR $\beta$ 1 (148): sc-65813** or **AChR $\beta$ 1 (123): sc-65790**, our highly recommended monoclonal alternatives to AChR $\beta$ 1 (H-101).