

# AChR $\beta$ 1 (123): sc-65790

## 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 CHRNB, CMS1D, CMS2A, SCCMS or CHRNB1, 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.

## REFERENCES

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- Betz, H. 1990. Ligand-gated ion channels in the brain: the amino acid receptor superfamily. *Neuron* 5: 383-392.
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- Daw, N.W., et al. 1993. The role of NMDA receptors in information processing. *Annu. Rev. Neurosci.* 16: 207-222.
- Unwin, N. 1993. Neurotransmitter action: opening of ligand-gated ion channels. *Cell* 72: 31-41.
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- 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: CHRNB1 (human) mapping to 17p13.1; Chrn1 (mouse) mapping to 11 B3.

## SOURCE

AChR $\beta$ 1 (123) is a rat monoclonal antibody raised against denatured, purified AChR of *Torpedo* origin.

## RESEARCH USE

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

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>1</sub> in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

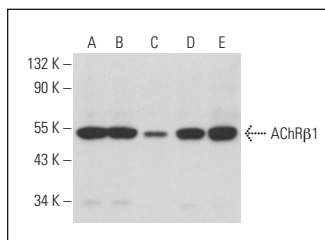
AChR $\beta$ 1 (123) is recommended for detection of nicotinic AChR $\beta$ 1 of mouse, rat, human, bovine and *Torpedo* origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

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.

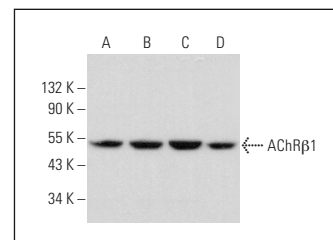
Molecular Weight of AChR $\beta$ 1: 55 kDa.

Positive Controls: A-673 cell lysate: sc-2414, C2C12 whole cell lysate: sc-364188 or KNRK whole cell lysate: sc-2214.

## DATA



AChR $\beta$ 1 (123): sc-65790. Western blot analysis of AChR $\beta$ 1 expression in A-673 (A), SJRH30 (B), Sol8 (C), A-10 (D) and KNRK (E) whole cell lysates.



AChR $\beta$ 1 (123): sc-65790. Western blot analysis of AChR $\beta$ 1 expression in A-673 (A), C2C12 (B), BC<sub>3</sub>H1 (C) and L6 (D) whole cell lysates.

## STORAGE

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

## PROTOCOLS

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