

AChR α 1 (26): sc-136130

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 α 1, also known as ACHRD, CHRNA, CMS2A, FCCMS, SCCMS or CHRNA1, is a 482 amino acid multi-pass membrane protein that exists as 2 alternatively spliced isoforms, which are expressed in different tissues. Isoform 1 is only expressed in skeletal muscle whereas isoform 2 is constitutively expressed in skeletal muscle, brain, heart, kidney, liver, lung and thymus.

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.
- Sargent, P.B. 1993. The diversity of neuronal nicotinic acetylcholine receptors. *Annu. Rev. Neurosci.* 16: 403-443.
- Unwin, N. 1993. Neurotransmitter action: opening of ligand-gated ion channels. *Cell* 72: 31-41.
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CHROMOSOMAL LOCATION

Genetic locus: Chrna1 (mouse) mapping to 2 C3.

SOURCE

AChR α 1 (26) is a mouse monoclonal antibody raised against amino acids 332-457 of AChR α 1 of rat origin.

PRODUCT

Each vial contains 50 μ g IgG_{2a} in 0.5 ml PBS with < 0.1% sodium azide, 0.1% gelatin, 20% glycerol, and 0.04% stabilizer protein.

APPLICATIONS

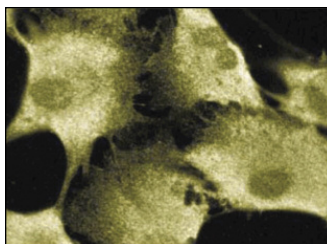
AChR α 1 (26) is recommended for detection of AChR α 1 of mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for AChR α 1 siRNA (m): sc-42525, AChR α 1 shRNA Plasmid (m): sc-42525-SH and AChR α 1 shRNA (m) Lentiviral Particles: sc-42525-V.

Molecular Weight of AChR α 1 isoforms: 52/55 kDa.

Positive Controls: BC₃H1 cell lysate: sc-2299.

DATA



AChR α 1 (26): sc-136130. Immunofluorescence staining of BC₃H1 cells showing cytoplasmic localization.

SELECT PRODUCT CITATIONS

- Pissulin, C.N., et al. 2017. GaAs laser therapy reestablishes the morphology of the NMJ and nAChRs after injury due to bupivacaine. *J. Photochem. Photobiol. B, Biol.* 167: 256-263.

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. Not for resale.

PROTOCOLS

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