SANTA CRUZ BIOTECHNOLOGY, INC.

AChRδ (C-4): sc-390896

The Power to Question

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. AChRδ, also known as CMS2A, FCCMS, SCCMS or CHRND, is a 517 amino acid multi-pass membrane protein that is associated with lethal type multiple pterygium syndrome, congenital myasthenic syndrome slow-channel type (SCCMS) and congenital myasthenic syndrome fast-channel type (FCCMS).

REFERENCES

1. Alkondon, 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.

CHROMOSOMAL LOCATION

Genetic locus: CHRND (human) mapping to 2q37.1; Chrnd (mouse) mapping to 1 D.

SOURCE

AChRδ (C-4) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 349-502 near the C-terminus of AChRδ of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

AChRδ (C-4) is available conjugated to agarose (sc-390896 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-390896 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-390896 PE), fluorescein (sc-390896 FITC), Alexa Fluor® 488 (sc-390896 AF488), Alexa Fluor® 546 (sc-390896 AF546), Alexa Fluor® 594 (sc-390896 AF594) or Alexa Fluor® 647 (sc-390896 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-390896 AF680) or Alexa Fluor® 790 (sc-390896 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-390896 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

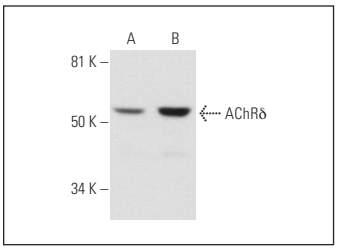
AChRδ (C-4) is recommended for detection of AChRδ of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), 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).

Suitable for use as control antibody for AChRδ siRNA (h): sc-42540, AChRδ siRNA (m): sc-42541, AChRδ shRNA Plasmid (h): sc-42540-SH, AChRδ shRNA Plasmid (m): sc-42541-SH, AChRδ shRNA (h) Lentiviral Particles: sc-42540-V and AChRδ shRNA (m) Lentiviral Particles: sc-42541-V.

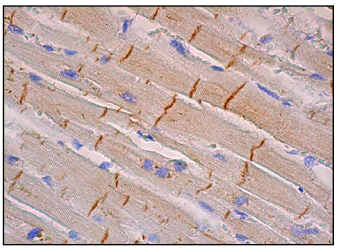
Molecular Weight of AChRδ: 60 kDa.

Positive Controls: SJRH30 cell lysate: sc-2287 or BC_3H1 cell lysate: sc-2299.

DATA



AChRδ (C-4): sc-390896. Western blot analysis of AChRδ expression in SJRH30 (**A**) and BC_3H1 (**B**) whole cell lysates.



AChRδ (C-4): sc-390896. Immunoperoxidase staining of formalin fixed, paraffin-embedded human heart muscle tissue showing membrane staining of myocytes.

SELECT PRODUCT CITATIONS

1. Condorelli, R.A., et al. 2017. Nicotine effects and receptor expression on human spermatozoa: possible neuroendocrine mechanism. Front. Physiol. 8: 177.
2. Cai, Y., et al. 2021. A stable cell line expressing clustered AChR: a novel cell-based assay for anti-AChR antibody detection in myasthenia gravis. Front. Immunol. 12: 666046.

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 for detailed protocols and support products.

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