SANTA CRUZ BIOTECHNOLOGY, INC.

AChRγ (145): sc-65759

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. AChRγ 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 AChRγ result in Escobar syndrome and a lethal form of multiple pterygium syndrome.

REFERENCES

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2. Betz, H. 1990. Ligand-gated ion channels in the brain: the amino acid receptor superfamily. Neuron 5: 383-392.
3. Baenziger, J.E., Miller, K.W., McCarthy, M.P. and Rothschild, K.J. 1992. Probing conformational changes in the nicotinic acetylcholine receptor by Fourier transform infrared difference spectroscopy. Biophys. J. 62: 64-66.
4. Daw, N.W., Stein, P.S. and Fox, K. 1993. The role of NMDA receptors in information processing. Annu. Rev. Neurosci. 16: 207-222.
5. Unwin, N. 1993. Neurotransmitter action: opening of ligand-gated ion channels. Cell 72: 31-41.
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7. Sargent, P.B. 1993. The diversity of neuronal nicotinic acetylcholine receptors. Annu. Rev. Neurosci. 16: 403-443.
8. Ramirez-Latorre, J., Yu, C.R., Qu, X., Perin, F., Karlin, A. and Role, L. 1996. Functional contributions of α5 subunit to neuronal acetylcholine receptor channels. Nature 380: 347-351.

SOURCE

AChRγ (145) is a rat monoclonal antibody raised against denatured, purified AChR of *Torpedo* origin.

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.

PRODUCT

Each vial contains 200 µg IgG_{2a} in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

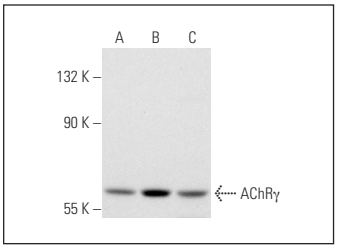
AChRγ (145) is available conjugated to agarose (sc-65759 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-65759 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-65759 PE), fluorescein (sc-65759 FITC), Alexa Fluor® 488 (sc-65759 AF488), Alexa Fluor® 546 (sc-65759 AF546), Alexa Fluor® 594 (sc-65759 AF594) or Alexa Fluor® 647 (sc-65759 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-65759 AF680) or Alexa Fluor® 790 (sc-65759 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

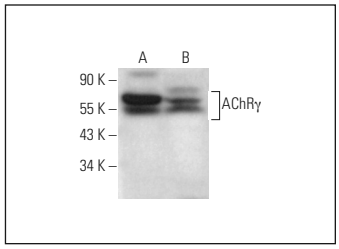
AChRγ (145) is recommended for detection of nicotinic AChRγ of *Torpedo* origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Molecular Weight of AChRγ: 58 kDa.

DATA



AChRγ (145): sc-65759. Western blot analysis of AChRγ expression in HeLa (**A**), RD (**B**) and IMR-32 (**C**) whole cell lysates.



AChRγ (145): sc-65759. Western blot analysis of AChRγ expression in RD (**A**) and F9 (**B**) whole cell lysates.

PROTOCOLS

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