

AChR α 5 (268): sc-58606

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 5, also known as LNCR2 or CHRNA5 (cholinergic receptor, nicotinic, α 5), is a 468 amino acid multi-pass membrane protein belonging to the ligand-gated ionic channel family and is involved in the mediation of fast signal transmission at synapses.

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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CHROMOSOMAL LOCATION

Genetic locus: CHRNA5 (human) mapping to 15q25.1; Chrna5 (mouse) mapping to 9 B.

SOURCE

AChR α 5 (268) is a rat monoclonal antibody raised against purified AChR α 5 of chicken origin.

STORAGE

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

PRODUCT

Each vial contains 200 μ g IgG₁ in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

AChR α 5 (268) is available conjugated to agarose (sc-58606 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-58606 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-58606 PE), fluorescein (sc-58606 FITC), Alexa Fluor® 488 (sc-58606 AF488), Alexa Fluor® 546 (sc-58606 AF546), Alexa Fluor® 594 (sc-58606 AF594) or Alexa Fluor® 647 (sc-58606 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-58606 AF680) or Alexa Fluor® 790 (sc-58606 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

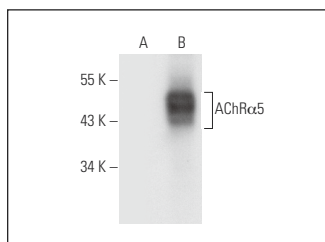
AChR α 5 (268) is recommended for detection of denatured neuronal nicotinic Acetylcholine Receptor α 5 of mouse, rat, human and avian origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)] and flow cytometry (1 μ g per 1 x 10⁶ cells).

Suitable for use as control antibody for AChR α 5 siRNA (h): sc-42530, AChR α 5 siRNA (m): sc-42531, AChR α 5 shRNA Plasmid (h): sc-42530-SH, AChR α 5 shRNA Plasmid (m): sc-42531-SH, AChR α 5 shRNA (h) Lentiviral Particles: sc-42530-V and AChR α 5 shRNA (m) Lentiviral Particles: sc-42531-V.

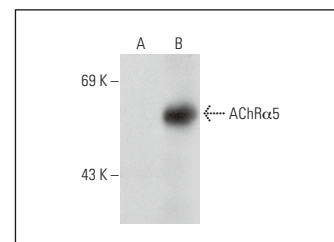
Molecular Weight of AChR α 5: 53 kDa.

Positive Controls: ACh α R5 (h5): 293T Lysate: sc-158228.

DATA



AChR α 5 (268): sc-58606. Western blot analysis of AChR α 5 expression in non-transfected: sc-117752 (A) and human AChR α 5 transfected: sc-173672 (B) 293T whole cell lysates.



AChR α 5 (268): sc-58606. Western blot analysis of AChR α 5 expression in non-transfected: sc-110760 (A) and human AChR α 5 transfected: sc-158228 (B) 293 whole cell lysates.

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.