

# AChR $\alpha$ 2 (H-8): sc-365251

## 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 $\alpha$ 2 is a 529 amino acid multi-pass membrane protein belonging to the ligand-gated ion channel receptor family and may be linked to nocturnal frontal lobe epilepsy type 4, an autosomal dominant epilepsy characterized by nocturnal seizures associated with fear sensation, tongue movements, and nocturnal wandering, closely resembling nightmares and sleep walking.

## REFERENCES

1. Alkonon, 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.
4. Daw, N.W., et al. 1993. The role of NMDA receptors in information processing. *Annu. Rev. Neurosci.* 16: 207-222.

## CHROMOSOMAL LOCATION

Genetic locus: CHRNA2 (human) mapping to 8p21.2; Chna2 (mouse) mapping to 14 D1.

## SOURCE

AChR $\alpha$ 2 (H-8) is a mouse monoclonal antibody raised against amino acids 364-474 mapping near the C-terminus of AChR $\alpha$ 2 of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG $_1$  kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

AChR $\alpha$ 2 (H-8) is available conjugated to agarose (sc-365251 AC), 500  $\mu$ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-365251 HRP), 200  $\mu$ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-365251 PE), fluorescein (sc-365251 FITC), Alexa Fluor<sup>®</sup> 488 (sc-365251 AF488), Alexa Fluor<sup>®</sup> 546 (sc-365251 AF546), Alexa Fluor<sup>®</sup> 594 (sc-365251 AF594) or Alexa Fluor<sup>®</sup> 647 (sc-365251 AF647), 200  $\mu$ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor<sup>®</sup> 680 (sc-365251 AF680) or Alexa Fluor<sup>®</sup> 790 (sc-365251 AF790), 200  $\mu$ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

## APPLICATIONS

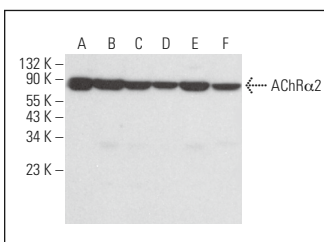
AChR $\alpha$ 2 (H-8) is recommended for detection of AChR $\alpha$ 2 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], immunofluorescence (starting 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 AChR $\alpha$ 2 siRNA (h): sc-42526, AChR $\alpha$ 2 siRNA (m): sc-42527, AChR $\alpha$ 2 shRNA Plasmid (h): sc-42526-SH, AChR $\alpha$ 2 shRNA Plasmid (m): sc-42527-SH, AChR $\alpha$ 2 shRNA (h) Lentiviral Particles: sc-42526-V and AChR $\alpha$ 2 shRNA (m) Lentiviral Particles: sc-42527-V.

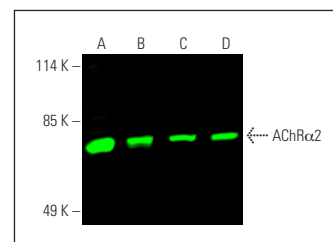
Molecular Weight of AChR $\alpha$ 2: 70 kDa.

Positive Controls: Hep G2 whole cell lysate: sc-2227, MOLT-4 cell lysate: sc-2233 or mouse testis extract: sc-2405.

## DATA



AChR $\alpha$ 2 (H-8): sc-365251. Western blot analysis of AChR $\alpha$ 2 expression in MOLT-4 (A), K-562 (B), c4 (C), EOC 20 (D), F9 (E) and C6 (F) whole cell lysates.



AChR $\alpha$ 2 (H-8): sc-365251. Near-Infrared western blot analysis of AChR $\alpha$ 2 expression in mouse testis tissue extract (A) and Hep G2 (B), Raji (C) and MOLT-4 (D) whole cell lysates. Blocked with UltraCruz<sup>®</sup> Blocking Reagent: sc-516214. Detection reagent used: m-IgGκ BP-CFL 680: sc-516180.

## SELECT PRODUCT CITATIONS

1. Paulo, J.A., et al. 2015. Global analysis of protein expression and phosphorylation levels in nicotinic-treated pancreatic stellate cells. *J. Proteome Res.* 14: 4246-4256.
2. Becerra-Amezcu, M.P., et al. 2020. Effect of *Pterois volitans* (lionfish) venom on cholinergic and dopaminergic systems. *Environ. Toxicol. Pharmacol.* 77: 103359.

## 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.

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