

Goat Anti-CHRNA4 (aa29-43) Antibody
Peptide-affinity purified goat antibody
Catalog # AF1239a**Specification**

Goat Anti-CHRNA4 (aa29-43) Antibody - Product Information

Application	WB, E
Primary Accession	P43681
Other Accession	NP_000735 , 1137 , 11438 (mouse) , 25590 (rat)
Reactivity	Human, Rat
Predicted	Mouse, Dog
Host	Goat
Clonality	Polyclonal
Concentration	100ug/200ul
Isotype	IgG
Calculated MW	69957

Goat Anti-CHRNA4 (aa29-43) Antibody - Additional Information**Gene ID** 1137**Other Names**

Neuronal acetylcholine receptor subunit alpha-4, CHRNA4, NACRA4

Dilution

WB~~1:1000

E~~N/A

Format

0.5 mg IgG/ml in Tris saline (20mM Tris pH7.3, 150mM NaCl), 0.02% sodium azide, with 0.5% bovine serum albumin

Storage

Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions

Goat Anti-CHRNA4 (aa29-43) Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Goat Anti-CHRNA4 (aa29-43) Antibody - Protein Information**Name** CHRNA4 ([HGNC:1958](#))**Synonyms** NACRA4**Function**

Component of neuronal acetylcholine receptors (nAChRs) that function as pentameric, ligand-gated cation channels with high calcium permeability among other activities. nAChRs are excitatory neurotransmitter receptors formed by a collection of nAChR subunits known to mediate synaptic transmission in the nervous system and the neuromuscular junction. Each nAChR subunit confers differential attributes to channel properties, including activation, deactivation and desensitization kinetics, pH sensitivity, cation permeability, and binding to allosteric modulators (PubMed:22361591, PubMed:27698419, PubMed:29720657, PubMed:38454578). CHRNA4 forms heteropentameric neuronal acetylcholine receptors with CHRNB2 and CHRNB4, as well as CHRNA5 and CHRNB3 as accessory subunits. Is the most abundant nAChR subtype expressed in the central nervous system (PubMed:16835356, PubMed:22361591, PubMed:27698419, PubMed:29720657, PubMed:38454578). Found in two major stoichiometric forms, (CHRNA4)₃:(CHRNB2)₂ and (CHRNA4)₂:(CHRNB2)₃, the two stoichiometric forms differ in their unitary conductance, calcium permeability, ACh sensitivity and potentiation by divalent cation (PubMed:27698419, PubMed:29720657, PubMed:38454578). Involved in the modulation of calcium-dependent signaling pathways, influences the release of neurotransmitters, including dopamine, glutamate and GABA (By similarity).

Cellular Location

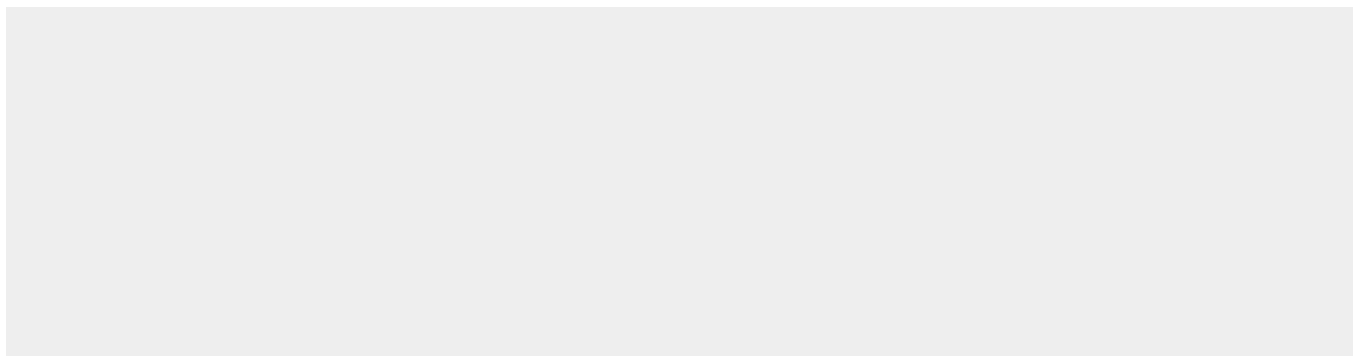
Synaptic cell membrane {ECO:0000250|UniProtKB:O70174}; Multi-pass membrane protein. Cell membrane {ECO:0000250|UniProtKB:O70174}; Multi-pass membrane protein

Goat Anti-CHRNA4 (aa29-43) Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

Goat Anti-CHRNA4 (aa29-43) Antibody - Images





AF1239a (0.3 µg/ml) staining of Rat Brain lysate (35 µg protein in RIPA buffer). Primary incubation was 1 hour. Detected by chemiluminescence.

Goat Anti-CHRNA4 (aa29-43) Antibody - Background

This gene encodes a nicotinic acetylcholine receptor, which belongs to a superfamily of ligand-gated ion channels that play a role in fast signal transmission at synapses. These pentameric receptors can bind acetylcholine, which causes an extensive change in conformation that leads to the opening of an ion-conducting channel across the plasma membrane. This protein is an integral membrane receptor subunit that can interact with either nAChR beta-2 or nAChR beta-4 to form a functional receptor. Mutations in this gene cause nocturnal frontal lobe epilepsy type 1. Polymorphisms in this gene that provide protection against nicotine addiction have been described.

Goat Anti-CHRNA4 (aa29-43) Antibody - References

Resequencing of Nicotinic Acetylcholine Receptor Genes and Association of Common and Rare Variants with the Fagerstr m Test for Nicotine Dependence. Wessel J, et al. Neuropsychopharmacology, 2010 Aug 25. PMID 20736995.
Maternal genes and facial clefts in offspring: a comprehensive search for genetic associations in two population-based cleft studies from Scandinavia. Jugessur A, et al. PLoS One, 2010 Jul 9. PMID 20634891.
Multiple cholinergic nicotinic receptor genes affect nicotine dependence risk in African and European Americans. Saccone NL, et al. Genes Brain Behav, 2010 Jun 22. PMID 20584212.
Genetic variation of CHRNA4 does not modulate attention in Parkinson's disease. Hudson G, et al. Neurosci Lett, 2010 Jul 26. PMID 20493238.
Epistasis between APOE and nicotinic receptor gene CHRNA4 in age related cognitive function and decline. Reinvang I, et al. J Int Neuropsychol Soc, 2010 May. PMID 20331911.