

**CHRNA7 Antibody**  
**Goat Polyclonal Antibody**  
**Catalog # ALS12921****Specification**

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**CHRNA7 Antibody - Product Information**

Application	IHC-P, E
Primary Accession	<a href="#">P36544</a>
Reactivity	Human, Monkey, Pig, Chicken, Horse, Bovine, Dog
Host	Goat
Clonality	Polyclonal
Dilution	IHC-P~~N/A E~~N/A

**CHRNA7 Antibody - Additional Information****Gene ID** 1139;89832**Other Names**

Neuronal acetylcholine receptor subunit alpha-7, CHRNA7, NACHRA7

**Target/Specificity**

Human CHRNA7. This antibody also reacts with CHRNA7-FAM7A fusion isoform 1 (NP\_647536.1) and isoform 2 (NP\_683709.1).

**Reconstitution & Storage**

Store at -20°C. Minimize freezing and thawing.

**Precautions**

CHRNA7 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

**CHRNA7 Antibody - Protein Information****Name** CHRNA7 ([HGNC:1960](#))**Synonyms** NACHRA7**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: [15609996](http://www.uniprot.org/citations/15609996), PubMed: [33735609](http://www.uniprot.org/citations/33735609), PubMed: [8145738](http://www.uniprot.org/citations/8145738)).

CHRNA7 forms homopentameric neuronal acetylcholine receptors abundantly expressed in the central nervous system, characterized by fast desensitization and high calcium permeability (PubMed:<a href="http://www.uniprot.org/citations/31560909" target="\_blank">31560909</a>, PubMed:<a href="http://www.uniprot.org/citations/33735609" target="\_blank">33735609</a>, PubMed:<a href="http://www.uniprot.org/citations/38382524" target="\_blank">38382524</a>, PubMed:<a href="http://www.uniprot.org/citations/8145738" target="\_blank">8145738</a>). Also forms heteropentamers with CHRN2, mainly expressed in basal forebrain cholinergic neurons. Involved in the modulation of calcium- dependent signaling pathways and influences the release of neurotransmitters, including dopamine, glutamate and GABA (PubMed:<a href="http://www.uniprot.org/citations/33239400" target="\_blank">33239400</a>). Also expressed in non-neuronal cells such as immune cells like lymphocytes, monocytes and macrophages (PubMed:<a href="http://www.uniprot.org/citations/12508119" target="\_blank">12508119</a>, PubMed:<a href="http://www.uniprot.org/citations/16968406" target="\_blank">16968406</a>, PubMed:<a href="http://www.uniprot.org/citations/25259522" target="\_blank">25259522</a>). In T cells, activation induces metabotropic signaling that results in an increase of intracellular Ca<sup>2+</sup> concentrations, independent of ionotropic receptor functions (PubMed:<a href="http://www.uniprot.org/citations/17709503" target="\_blank">17709503</a>). In macrophages, required for acetylcholine-mediated inhibition of TNF and other inflammatory cytokine release (PubMed:<a href="http://www.uniprot.org/citations/12508119" target="\_blank">12508119</a>). Once activated by acetylcholine, nicotine or other agonists, selectively inhibits production of pro-inflammatory cytokines while leaving anti-inflammatory cytokines undisturbed (PubMed:<a href="http://www.uniprot.org/citations/12508119" target="\_blank">12508119</a>, PubMed:<a href="http://www.uniprot.org/citations/25259522" target="\_blank">25259522</a>). Stimulates the cholinergic anti-inflammatory pathway, controlling inflammation by inhibiting NFκB nuclear translocation and activating the JAK2-STAT3 pathway, independently of ion channel activity (PubMed:<a href="http://www.uniprot.org/citations/16968406" target="\_blank">16968406</a>, PubMed:<a href="http://www.uniprot.org/citations/25259522" target="\_blank">25259522</a>). Also expressed in the urothelium where it modulates reflex bladder activity by increasing intracellular calcium through internal stores and decreasing basal ATP release (By similarity).

### Cellular Location

Postsynaptic cell membrane {ECO:0000250|UniProtKB:Q05941}; Multi-pass membrane protein. Cell membrane; Multi-pass membrane protein. Note=TMEM35A/NACHO promotes its trafficking to the cell membrane (PubMed:27789755). RIC3 promotes its trafficking to the cell membrane (By similarity) {ECO:0000250|UniProtKB:Q05941, ECO:0000269|PubMed:27789755}

### Tissue Location

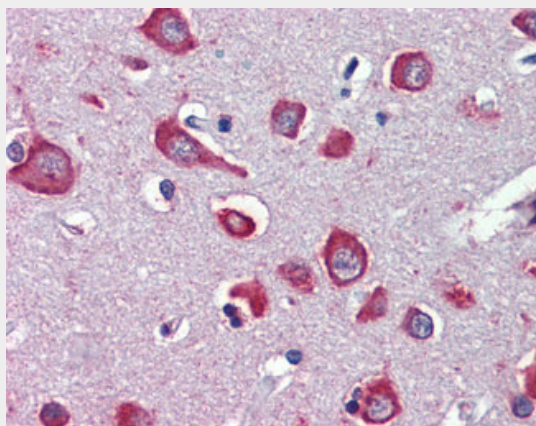
Expressed in neuronal cells (PubMed:8145738). Expressed in macrophages (at protein level) (PubMed:12508119)

## CHRNA7 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](#)

## CHRNA7 Antibody - Images



Anti-CHRNA7 antibody IHC of human brain, cortex.