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# Anti-CHRNA7 Antibody

Catalog # AP53661

## Product Information

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|---|---|
| **Application** | WB |
| **Primary Accession** | P36544 |
| **Other Accession** | Q494W8 |
| **Reactivity** | Human, Mouse, Rat, Zebrafish, Pig, Chicken, Bovine, Mk |
| **Host** | Rabbit |
| **Clonality** | Polyclonal |
| **Calculated MW** | 56449 |

## Additional Information

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|---|---|
| **Gene ID** | 1139;89832 |
| **Other Names** | CHRNA7; NACHRA7; Neuronal acetylcholine receptor subunit alpha-7; CHRFAM7A; CHRNA7-FAM7A fusion protein; CHRNA7-DR1; D-10 |
| **Target/Specificity** | KLH-conjugated synthetic peptide encompassing a sequence within the center region of human CHRNA7. The exact sequence is proprietary. |
| **Dilution** | WB~~1/500 - 1/1000 |
| **Format** | Liquid in 0.42% Potassium phosphate, 0.87% Sodium chloride, pH 7.3, 30% glycerol, and 0.01% sodium azide. |
| **Storage** | Store at -20 °C.Stable for 12 months from date of receipt |

## Protein Information

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| **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 neurotrasnmitter 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, PubMed:33735609, PubMed:8145738). CHRNA7 forms homopentameric neuronal acetylcholine receptors abundantly expressed in the central nervous system, characterized by fast desensitization and high calcium permeability (PubMed:31560909, PubMed:33735609, PubMed:38382524, |

PubMed:8145738). Also forms heteropentamers with CHRNB2, 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:33239400). Also expressed in non-neuronal cells such as immune cells like lymphocytes, monocytes and macrophages (PubMed:12508119, PubMed:16968406, PubMed:25259522). In T cells, activation induces metabotropic signaling that results in an increase of intracellular Ca2+ concentrations, independent of ionotropic receptor functions (PubMed:17709503). In macrophages, required for acetylcholine-mediated inhibition of TNF and other inflammatory cytokine release (PubMed:12508119). Once activated by acetylcholine, nicotine or other agonists, selectively inhibits production of pro-inflammatory cytokines while leaving anti-inflammatory cytokines undisturbed (PubMed:12508119, PubMed:25259522). Stimulates the cholinergic anti-inflammatory pathway, controlling inflammation by inhibiting NFKB nuclear translocation and activating the JAK2-STAT3 pathway, independently of ion channel activity (PubMed:16968406, PubMed:25259522). 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).

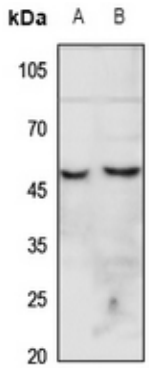
**Cellular Location**

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)

## Images




Western blot analysis of CHRNA7 expression in mouse liver (A), rat liver (B) whole cell lysates. (Predicted band size: 11; 56; 59 kD; Observed band size: 46 kD)

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.