

Recombinant Human CHRNA7 Full Length transmembrane protein

Cat. No. CHRNA7-177H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant Human CHRNA7 Full Length transmembrane protein was expressed in E.coli.
Species	Human
Source	E.coli
ProteinLength	23-502 aa
Description	The nicotinic acetylcholine receptors (nAChRs) are members of a superfamily of ligand-gated ion channels that mediate fast signal transmission at synapses. The nAChRs are thought to be hetero-pentamers composed of homologous subunits. The proposed structure for each subunit is a conserved N-terminal extracellular domain followed by three conserved transmembrane domains, a variable cytoplasmic loop, a fourth conserved transmembrane domain, and a short C-terminal extracellular region. The protein encoded by this gene forms a homo-oligomeric channel, displays marked permeability to calcium ions and is a major component of brain nicotinic receptors that are blocked by, and highly sensitive to, alpha-bungarotoxin. Once this receptor binds acetylcholine, it undergoes an extensive change in conformation that affects all subunits and leads to opening of an ion-conducting channel across the plasma membrane. This gene is located in a region identified as a major susceptibility locus for juvenile myoclonic epilepsy and a chromosomal location involved in the genetic transmission of schizophrenia. An evolutionarily recent partial duplication event in this

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	region results in a hybrid containing sequence from this gene and a novel FAM7A gene. Alternative splicing results in multiple transcript variants.
Form	Lyophilized from a 0.2 µm sterile filtered PBS, 0.05% Brij 78, 6% Trehalose, pH7.4. The volume before lyophilization is 97 µL/vial.
Molecular Mass	55.1 kDa
AASequence	GEFQRKLYKELVKNYNPLERPVANDSQPLTVYFSLSLQIMDVDEKNQVLTTNIWLQ MSWTDHYLQWNVSEYPGVKTVRFPDGGQIWKPDILLYNSADERFDATFHTNVLVNSS GHCQYLPPGIFKSSCYIDVRWFPFDVQHCKLKFGSWSYGGWSLDLQMQEADISGYI PNGEWDLVGIPGKRSERFYECCKEYPDPVTFVTMRRRTLYYGLNLLIPCVLISALAL LVFLLPADSGEKISLGITVLLSLTVFMLLVAEIMPATSDSVPLIAQYFASTMIIVGLSVVV TVIVLQYHHHDPDGGKMPKWTRVILLNWCAWFLRMKRPGEDKVRPACQHKQRRRC SLASVEMSAVAPPPASNGNLLYIGFRGLDGVHCVPTPDSGVVCGRMACSPTHDEHL LHGGQPPEGDPDLAKILEEVRYIANRFRQCDESEAVCSEWKFAACVVDRLCLMAFS VFTIICTIGILMSAPNFVEAVSKDFA
Endotoxin	<1.0 EU/µg of the protein by the LAL method
Purity	≥ 90% by SDS-PAGE
Storage	Store it under sterile conditions at -20 to -80 centigrade. It is recommended that the protein be aliquoted for optimal storage. Avoid repeated freeze-thaw cycles.
Reconstitution	We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Please reconstitute protein in deionized sterile water to a concentration of 0.1-1.0 mg/mL. We recommend to add 5-50% of glycerol (final concentration) and aliquot for long-term storage at -20/-80 centigrade. Our default final concentration of glycerol is 50%. Customers could use it as reference.

GENE INFORMATION

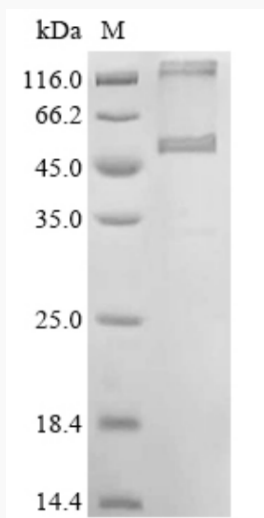
Gene Name	CHRNA7 cholinergic receptor nicotinic alpha 7 subunit [Homo sapiens (human)]
Official Symbol	CHRNA7
Synonyms	CHRNA7; cholinergic receptor, nicotinic, alpha 7 (neuronal); cholinergic receptor, nicotinic, alpha polypeptide 7; neuronal acetylcholine receptor subunit alpha-7; acetylcholine receptor; nicotinic; alpha 7 (neuronal); a7 nicotinic acetylcholine receptor; alpha-7 nicotinic cholinergic receptor subunit; alpha 7 neuronal nicotinic acetylcholine receptor; acetylcholine receptor, nicotinic, alpha 7 (neuronal); neuronal acetylcholine receptor protein, alpha-7 chain; NACHRA7; CHRNA7-2;
Gene ID	1139
mRNA Refseq	NM_000746
Protein Refseq	NP_000737
MIM	118511
UniProt ID	P36544

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SDS-PAGE



Monomer: 50 kDa Dimer: 120 kDa

It is speculated that the protein forms a dimeric structure. (Tris-Glycine gel)
Discontinuous SDS-PAGE (reduced) with 5% enrichment gel and 15% separation gel. Boiling SDS-treated samples may result in membrane protein aggregation.
Incubation at 37 centigrade for 10 min is an effective alternative.

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