

CHRNA7 (Human) Recombinant Protein (Q01)

Catalog # H00001139-Q01

Size 25 ug, 10 ug

Applications



Specification

Product Description	Human CHRNA7 partial ORF (AAH37571, 182 a.a. - 502 a.a.) recombinant protein with GST tag at N-terminal.
Sequence	MQEADISGYIPNGEWDLVGIPGKRSEFYECCKEYPDPVTFVTVMRRRTLYYGLSLLIPCVLISALAL LVFLLPADSGEKISLGITVLLSLTVFMLLVAEIMPATSDSVPLIAQYFASTMITVGLSVVVTVIVLQYHH HDPDGGKMPKWTRVILLNWCWFLRMKRPGEDKVRPACQHKQRRCSLASVEMSAVAPPPASN GNLLYIGFRGLDGVHCVPTPDSGVVCGRMACSPTHDEHLLHGGQPPEGDPDLAKILEEVRYIANR FRCQDESEAVCSEWKFAACVVDRLCLMAFSVFTIICTIGILMSAPNFVEAVSKDFA
Theoretical MW (kDa)	61.05
Preparation Method	in vitro wheat germ expression system
Purification	Glutathione Sepharose 4 Fast Flow
Quality Control Testing	12.5% SDS-PAGE Stained with Coomassie Blue
Storage Buffer	50 mM Tris-HCl, 10 mM reduced Glutathione, pH=8.0 in the elution buffer.
Storage Instruction	Store at -80°C. Aliquot to avoid repeated freezing and thawing.
Note	Best use within three months from the date of receipt of this protein.

Applications

- Enzyme-linked Immunoabsorbent Assay
- Western Blot (Recombinant protein)
- Antibody Production
- Protein Array

Gene Info — CHRNA7

Entrez GeneID [1139](#)

GeneBank Accession# [BC037571](#)

Protein Accession# [AAH37571](#)

Gene Name CHRNA7

Gene Alias CHRNA7-2, NACHRA7

Gene Description cholinergic receptor, nicotinic, alpha 7

Omim ID [118511](#)

Gene Ontology [Hyperlink](#)

Gene Summary

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 region results in a hybrid containing sequence from this gene and a novel FAM7A gene. [provided by RefSeq]

Other Designations

a7 nicotinic acetylcholine receptor|alpha 7 neuronal nicotinic acetylcholine receptor|alpha-7 nicotinic cholinergic receptor subunit|cholinergic receptor, nicotinic, alpha polypeptide 7|neuronal acetylcholine receptor protein, alpha-7 chain

Publication Reference

- [3-dehydroandrographolide protects against lipopolysaccharide-induced inflammation through the cholinergic anti-inflammatory pathway.](#)

Lu Z, Xie P, Zhang D, Sun P, Yang H, Ye J, Cao H, Huo C, Zhou H, Chen Y, Ye W, Yu L, Liu J.

Biochemical Pharmacology 2018 Nov; 158:305.

Application: Func, Compound 3-DA

- [APS8 Delays Tumor Growth in Mice by Inducing Apoptosis of Lung Adenocarcinoma Cells Expressing High Number of \$\alpha 7\$ Nicotinic Receptors.](#)

Berne S, Čemažar M, Frangež R, Juntos P, Kranjc S, Grandič M, Savarin M, Turk T.

Marine Drugs 2018 Oct; 16(10):E367.

Application: Func, WB-Re, Human, A-549 cells

- [Increased antibodies for the alpha 7 subunit of the nicotinic receptor in schizophrenia.](#)

Chandley MJ, Miller MN, Newell Kwasigroch C, Wilson TD, Miller BE.

Schizophrenia Research 2009 Apr; 109(1-3):98.

Application: ELISA, Human, Human serum

Pathway

- [Calcium signaling pathway](#)

Disease

- [Alzheimer disease](#)
- [Angelman syndrome](#)
- [Arousal](#)
- [Attention](#)
- [Attention Deficit Disorder with Hyperactivity](#)

- [Auditory Perceptual Disorders](#)
- [Autistic Disorder](#)
- [Bipolar Disorder](#)
- [Chromosome Deletion](#)
- [Cognition](#)
- [Cognition Disorders](#)
- [Depressive Disorder](#)
- [Disease Progression](#)
- [Epilepsy](#)
- [Genetic Predisposition to Disease](#)
- [Hypercholesterolemia](#)
- [Lung Neoplasms](#)
- [Memory Disorders](#)
- [Mental Disorders](#)
- [Mental Retardation](#)
- [Mental Status Schedule](#)
- [NARP](#)
- [Obesity](#)
- [Ovarian Failure](#)
- [Peripheral Vascular Diseases](#)
- [Personality Inventory](#)
- [Polycystic Ovary Syndrome](#)
- [Prader-Willi syndrome](#)
- [Psychiatric Status Rating Scales](#)
- [Psychological Tests](#)
- [Psychotic Disorders](#)

- [Puberty](#)
- [Schizophrenia](#)
- [Schizophrenic Psychology](#)
- [Sensation Disorders](#)
- [Thrombophilia](#)
- [Tobacco Use Disorder](#)
- [Wechsler Scales](#)
- [Weight Gain](#)