Daresbury Proteins

Product description

Name: **Recombinant Human Amyloid Precursor Protein, beta form, APPβ**

Synonyms: Amyloid-beta A4 protein, ABPP, APPI, Alzheimer disease amyloid protein, Amyloid precursor protein, Amyloid-beta precursor protein, Cerebral vascular amyloid peptide (CVAP), PreA4, Protease nexin-II (PN-II), Soluble APP-beta (S-APP-beta), Isoform APP695

Species: Human

Source: HEK293

Amino Acids: 18-596

Tag: 10xHis at the N terminus

Predicted Molecular Weight: 67.3 kDa

Protein ID: P05067-4

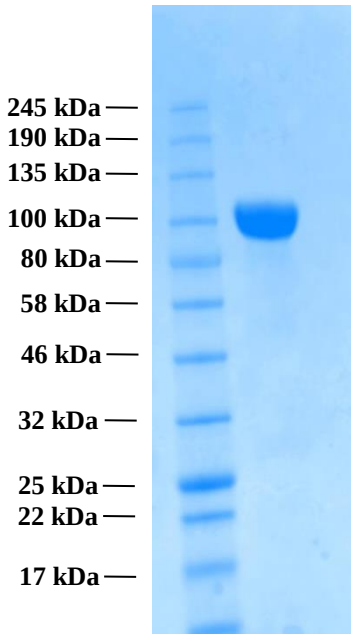
Sequence:

HHHHHHHHHHGSG**LEVPTDGNAGLLAEPQIAMFCGRLNMHMNVQNGKWDSDPSGTKTCIDTKEGILQYCQEVYPELQIT NVVEANQPVTIQNWCKRGRKQCKTHPHFVIPYRCLVGEFVSDALLVPDKCKFLHQERMDVCETHLHWHTVAKETCSEKS TNLHDYGMLLPCGIDKFRGVEFVCCPLAEESDNVDSADAEEDDSDVWWGGADTDYADGSEDKVVEVAEEEEVAEVEEEE ADDDEDDEDGDEVEEEAEEPYEEATERTTSIATTTTTTTESVEEVVRVPTTAASTPDAVDKYLETPGDENEHAHFQKAKE RLEAKHRERMSQVMREWEEAERQAKNLPKADKKAVIQHFQEKVESLEQEAANERQQLVETHMARVEAMLNDRRRLAL ENYITALQAVPPRPRHVFNMLKKYVRAEQKDRQHTLKHFEHVRMVDPKKAAQIRSQVMTHLRVIYERMNQSLSLLYNV PAVAEEIQDEVDELLQKEQNYSDDVLANMISEPRISYGNDALMPSLTETKTTVELLPVNGEFSLDDLQPWHSFGADSVPAN TENEVEPVDARPAADRGLTTRPGSGLTNIKTEEISEVKM**

Product specifications

Estimated Molecular Weight, SDS-PAGE: ≈ 95 kDa

Grade & Purity: >95% as estimated by SDS-PAGE stained with Instant Blue Stain (Expedeon).



Endotoxins: Less than 0.1 ng/µg (1 IEU/µg), as measured by LAL method.

Formulation: PBS 20% Glycerol

Shipping

Product is shipped either on dry or wet ice. Upon receipt, store at -20°C to -70°C.

Product application and Storage

Storage: The protein should be stored at -20°C to -70°C preferably in small aliquots to avoid repeated freeze-thaw cycles.

Stability: At least 12 months at -20°C to -70°C and at least 1 month at 2°C to 8°C.

Application Note: For research purposes only. Not for use in humans.

Background Information

Functions as a cell surface receptor and performs physiological functions on the surface of neurons relevant to neurite growth, neuronal adhesion and axonogenesis (1). Involved in cell mobility and transcription regulation through protein-protein interactions. Can promote transcription activation through binding to APBB1-KAT5 and inhibits Notch signalling through interaction with Numb. Couples to apoptosis-inducing pathways such as those mediated by G(O) and JIP (2). Inhibits G(O) alpha ATPase activity. Acts as a kinesin I membrane receptor, mediating the axonal transport of beta-secretase and presenilin 1. Involved in copper homeostasis/oxidative stress through copper ion reduction. In vitro, copper-metallated APP induces neuronal death directly or is potentiated through Cu2+-mediated low-density lipoprotein oxidation (3). Can regulate neurite outgrowth through binding to components of the extracellular matrix such as heparin and collagen I and IV.

APP is involved in Alzheimer disease which is caused by mutations affecting the gene coding for the protein (4). Alzheimer disease is a neurodegenerative disorder characterized by progressive dementia, loss of cognitive abilities, and deposition of fibrillar amyloid proteins as intraneuronal neurofibrillary tangles, extracellular amyloid plaques and vascular amyloid deposits. The major constituents of these plaques are neurotoxic amyloid-beta protein 40 and amyloid-beta protein 42, that are produced by the proteolysis of the transmembrane APP protein (5).

References:

1. Kang et al. (1987) *Nature,* 733-736
2. Goldstein. (2012) *Prog. Neurobiol.*, 186-190
3. Acevedo et al. (2011) *J. Biol. Chem.*, 8252-8262
4. Citron et al. (1995) *Neuron*, 661-670
5. Kant and Goldstein. (2015) *Dev. Cell*, 502-515