

**beta-Amyloid / A4 Protein Precursor (APP) (319-335)**  
**Synthetic Peptide**  
**Catalog # SP2498b****Specification****beta-Amyloid / A4 Protein Precursor (APP) (319-335) - Product Information**

Primary Accession	<a href="#">O95241</a>
Other Accession	<a href="#">P12023</a> , <a href="#">Q60495</a> , <a href="#">P79307</a> , <a href="#">P53601</a> , <a href="#">P05067</a>
Sequence	NH2-AKERLEAKHRERMSQVM-COOH

**beta-Amyloid / A4 Protein Precursor (APP) (319-335) - Additional Information****Other Names**

Amyloid beta A4 protein, ABPP, APP, Alzheimer disease amyloid A4 protein homolog, N-APP, Soluble APP-alpha, S-APP-alpha, Soluble APP-beta, S-APP-beta, C99, Beta-amyloid protein 42, Beta-APP42, Beta-amyloid protein 40, Beta-APP40, C83, P3(42), P3(40), C80, Gamma-secretase C-terminal fragment 59, Gamma-CTF(59), Gamma-secretase C-terminal fragment 57, Gamma-CTF(57), Gamma-secretase C-terminal fragment 50, Gamma-CTF(50), C31, APP

**Format**

Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

**Storage**

Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

**Precautions**

This product is for research use only. Not for use in diagnostic or therapeutic procedures.

**beta-Amyloid / A4 Protein Precursor (APP) (319-335) - Protein Information**

**Name** APP {ECO:0000250|UniProtKB:P05067}

**Function**

Functions as a cell surface receptor and performs physiological functions on the surface of neurons relevant to neurite growth, neuronal adhesion and axonogenesis. Interaction between APP molecules on neighboring cells promotes synaptogenesis. Involved in cell mobility and transcription regulation through protein-protein interactions (By similarity). Can promote transcription activation through binding to APBB1-KAT5 and inhibit Notch signaling through interaction with Numb (By similarity). Couples to apoptosis-inducing pathways such as those mediated by G(o) and JIP (By similarity). Inhibits G(o)-alpha ATPase activity (By similarity). Acts as a kinesin I membrane receptor, mediating the axonal transport of beta-secretase and presenilin 1 (By similarity). By acting as a kinesin I membrane receptor, plays a role in axonal anterograde transport of cargo towards synapses in axons (By similarity). May be involved in copper homeostasis/oxidative stress through copper ion reduction (By similarity). In vitro, copper-metallated APP induces neuronal death directly or is potentiated through Cu(2+)-mediated low-density lipoprotein oxidation (By similarity). Can regulate neurite outgrowth through binding to components of the extracellular matrix such as heparin and collagen I and IV. Induces a

AGER-dependent pathway that involves activation of p38 MAPK, resulting in internalization of amyloid-beta peptide and mitochondrial dysfunction in cultured cortical neurons. Provides Cu(2+) ions for GPC1 which are required for release of nitric oxide (NO) and subsequent degradation of the heparan sulfate chains on GPC1 (By similarity).

#### **Cellular Location**

Cell membrane {ECO:0000250|UniProtKB:P05067}; Single-pass type I membrane protein {ECO:0000250|UniProtKB:P05067} Membrane {ECO:0000250|UniProtKB:P05067}; Single-pass type I membrane protein {ECO:0000250|UniProtKB:P05067}. Perikaryon {ECO:0000250|UniProtKB:P05067}. Cell projection, growth cone {ECO:0000250|UniProtKB:P05067}. Membrane, clathrin-coated pit {ECO:0000250|UniProtKB:P05067}. Early endosome {ECO:0000250|UniProtKB:P05067}. Cytoplasmic vesicle {ECO:0000250|UniProtKB:P05067}. Note=Cell surface protein that rapidly becomes internalized via clathrin-coated pits. Only a minor proportion is present at the cell membrane; most of the protein is present in intracellular vesicles. During maturation, the immature APP (N- glycosylated in the endoplasmic reticulum) moves to the Golgi complex where complete maturation occurs (O-glycosylated and sulfated). After alpha-secretase cleavage, soluble APP is released into the extracellular space and the C-terminal is internalized to endosomes and lysosomes. Some APP accumulates in secretory transport vesicles leaving the late Golgi compartment and returns to the cell surface. APP sorts to the basolateral surface in epithelial cells. During neuronal differentiation, the Thr-743 phosphorylated form is located mainly in growth cones, moderately in neurites and sparingly in the cell body Casein kinase phosphorylation can occur either at the cell surface or within a post-Golgi compartment. Associates with GPC1 in perinuclear compartments. Colocalizes with SORL1 in a vesicular pattern in cytoplasm and perinuclear regions. {ECO:0000250|UniProtKB:P05067} [C99]: Early endosome {ECO:0000250|UniProtKB:P05067} [Amyloid-beta protein 42]: Cell surface {ECO:0000250|UniProtKB:P05067}. Note=Associates with FPR2 at the cell surface and the complex is then rapidly internalized {ECO:0000250|UniProtKB:P05067}

#### **beta-Amyloid / A4 Protein Precursor (APP) (319-335) - Images**