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App antibody - C-terminal region

Rabbit Polyclonal Antibody
Catalog # AI14332

Product Information

Application	WB
Primary Accession	P12023
Other Accession	NM_001198824, NP_001185753
Reactivity	Human, Mouse, Rat, Rabbit, Zebrafish, Dog, Guinea Pig, Horse, Bovine
Predicted	Human, Mouse, Rat, Zebrafish, Pig, Chicken, Dog, Guinea Pig, Horse, Bovine
Host	Rabbit
Clonality	Polyclonal
Calculated MW	86722

Additional Information

Gene ID	11820
Alias Symbol	Abeta, Abpp, Adap, Ag, betaApp, Cvap, E030013M08Rik
Other Names	Amyloid beta A4 protein, ABPP, APP, Alzheimer disease amyloid A4 protein homolog, Amyloidogenic glycoprotein, AG, N-APP, Soluble APP-alpha, S-APP-alpha, Soluble APP-beta, S-APP-beta, C99, APP-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, APP-C59, Amyloid intracellular domain 59, AID(59), Gamma-CTF(59), Gamma-secretase C-terminal fragment 57, APP-C57, Amyloid intracellular domain 57, AID(57), Gamma-CTF(57), Gamma-secretase C-terminal fragment 50, Amyloid intracellular domain 50, AID(50), Gamma-CTF(50), C31, App
Format	Liquid. Purified antibody supplied in 1x PBS buffer with 0.09% (w/v) sodium azide and 2% sucrose.
Reconstitution & Storage	Add 50 ul of distilled water. Final anti-App antibody concentration is 1 mg/ml in PBS buffer with 2% sucrose. For longer periods of storage, store at 20°C. Avoid repeat freeze-thaw cycles.
Precautions	App antibody - C-terminal region is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	App {ECO:0000312|MGI:MGI:88059}
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. Can promote transcription activation through binding to APBB1-KAT5 and inhibit Notch signaling through interaction with Numb. Couples to apoptosis-inducing pathways such as those mediated by G(o) and JIP. 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. Can regulate neurite outgrowth through binding to components of the extracellular matrix such as heparin and collagen I and IV (By similarity). The splice isoforms that contain the BPTI domain possess protease inhibitor activity. Induces a AGER-dependent pathway that involves activation of p38 MAPK, resulting in internalization of amyloid-beta peptide and leading to mitochondrial dysfunction in cultured cortical neurons (By similarity). 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.

Cellular Location

Cell membrane; 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:P08592}. Cell projection, growth cone {ECO:0000250|UniProtKB:P08592}. Membrane, clathrin-coated pit {ECO:0000250|UniProtKB:P05067}. Early endosome. Cytoplasmic vesicle {ECO:0000250|UniProtKB:P05067}. Golgi apparatus, trans-Golgi network. 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 (By similarity). Associates with GPC1 in perinuclear compartments (PubMed:15677459). Colocalizes with SORL1 in a vesicular pattern in cytoplasm and perinuclear regions (By similarity). Upon neuronal activation, routed into BACE1-positive recycling endosomes via a clathrin -dependent mechanism (PubMed:23931995). {ECO:0000250|UniProtKB:P05067, ECO:0000269|PubMed:15677459, ECO:0000269|PubMed:23931995} [C83]: Endoplasmic reticulum {ECO:0000250|UniProtKB:P05067}. Golgi apparatus {ECO:0000250|UniProtKB:P05067}. Early endosome {ECO:0000250|UniProtKB:P05067} [Amyloid-beta protein 42]: Cell surface. Note=Associates with FPR2 at the cell surface and the complex is then rapidly internalized. {ECO:0000250|UniProtKB:P05067}

Tissue Location

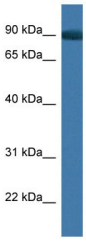
Expressed in the brain with expression in cortex, cerebellum, hippocampus, olfactory bulb, neurons, astrocytes and microglia (at protein level) (PubMed:25757569, PubMed:26260791, PubMed:28720718). Expressed in the retinal lens (PubMed:25757569) Expressed at a low level in muscle cells (at protein level) (PubMed:25757569). [Isoform APP751]: Widely expressed (PubMed:8510506). Expressed in several different brain regions including hippocampus, substantia nigra pars compacta and cerebellum (PubMed:8510506). Within the cerebellum, abundantly expressed in Purkinje

cells (PubMed:8510506). [Isoform APP714]: Expressed in several different brain regions including hippocampus, substantia nigra pars compacta and cerebellum (PubMed:8510506). Within the cerebellum, abundantly expressed in Purkinje cells (PubMed:8510506)

References

Yamada T.,et al.Biochem. Biophys. Res. Commun. 149:665-671(1987).
Yamada T.,et al.Submitted (MAR-1988) to the EMBL/GenBank/DDBJ databases.
de Strooper B.,et al.Biochim. Biophys. Acta 1129:141-143(1991).
Kumar V.B.,et al.Biochem. Cell Biol. 79:57-67(2001).
Izumi R.,et al.Gene 112:189-195(1992).

Images



WB Suggested Anti-App Antibody Titration: 1.0 µg/ml
Positive Control: Mouse Brain

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