

**MOC-31 Antibody**  
**Mouse Monoclonal Antibody (Mab)**  
**Catalog # AD80328****Specification**

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**MOC-31 Antibody - Product info**

Application	IHC
Primary Accession	<a href="#">P05067</a>
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Isotype	IgG1
Calculated MW	86943

**MOC-31 Antibody - Additional info**

Gene ID	351
Gene Name	APP ( <a href="#">HGNC:620</a> )

**Other Names**

Amyloid-beta precursor protein, APP, ABPP, APPI, Alzheimer disease amyloid protein, Amyloid precursor protein, Amyloid-beta A4 protein, Cerebral vascular amyloid peptide, CVAP, PreA4, Protease nexin-II, PN-II, N-APP, Soluble APP-alpha, S-APP-alpha, Soluble APP-beta, S-APP-beta, C99, Beta-secretase C-terminal fragment, Beta-CTF, Amyloid-beta protein 42, Abeta42, Beta-APP42, Amyloid-beta protein 40, Abeta40, Beta-APP40, C83, Alpha-secretase C-terminal fragment, Alpha-CTF, P3(42), P3(40), C80, Gamma-secretase C-terminal fragment 59, Amyloid intracellular domain 59, AICD-59, AID(59), Gamma-CTF(59), Gamma-secretase C-terminal fragment 57, Amyloid intracellular domain 57, AICD-57, AID(57), Gamma-CTF(57), Gamma-secretase C-terminal fragment 50, Amyloid intracellular domain 50, AICD-50, AID(50), Gamma-CTF(50), C31, APP ([http://www.genenames.org/cgi-bin/gene\\_symbol\\_report?hgnc\\_id=620](http://www.genenames.org/cgi-bin/gene_symbol_report?hgnc_id=620)), A4, AD1

**Dilution**

IHC~~1:100~500

**Storage**

Maintain refrigerated at 2-8°C

**Precautions**

**MOC-31 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.**

**MOC-31 Antibody - Protein Information**

**Name** APP ([HGNC:620](#))

**Synonyms**

**A4, AD1**

**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 (PubMed:[25122912](#)). Involved in cell mobility and transcription regulation through protein-protein interactions. Can promote transcription activation through binding to APBB1-KAT5 and inhibits 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. Involved in copper homeostasis/oxidative stress through copper ion reduction. In vitro, copper-metallated APP induces neuronal death directly or is potentiated through Cu(2+)-mediated low-density lipoprotein oxidation. Can regulate neurite outgrowth through binding to components of the extracellular matrix such as heparin and collagen I and IV. 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. 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. N-APP binds TNFRSF21 triggering caspase activation and degeneration of both neuronal cell bodies (via caspase-3) and axons (via caspase-6).

#### Cellular Location

Cell membrane; Single- pass type I membrane protein. Membrane; Single-pass type I membrane protein. Perikaryon. Cell projection, growth cone. Membrane, clathrin-coated pit. Early endosome. Cytoplasmic vesicle 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 (PubMed:20580937). 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

#### Tissue Location

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 (PubMed:10341243) 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 Amyloid-beta protein 42: Cell surface. Note=Associates with FPR2 at the cell surface and the complex is then rapidly internalized.

Expressed in all fetal tissues examined with highest levels in brain, kidney, heart and spleen. Weak expression in liver. In adult brain, highest expression found in the frontal lobe of the cortex and in the anterior perisylvian cortex- opercular gyri. Moderate expression in the cerebellar cortex, the posterior perisylvian cortex-opercular gyri and the temporal associated cortex. Weak expression found in the striate, extra- striate and motor cortices. Expressed in cerebrospinal fluid, and plasma. Isoform APP695 is the predominant form in neuronal tissue, isoform APP751 and isoform APP770 are widely expressed in non- neuronal cells. Isoform APP751 is the most abundant form in T- lymphocytes. Appican is expressed in astrocytes

#### MOC-31 Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

#### MOC-31 Antibody - Images