

ADAM10 Antibody
Catalog # ASC10043

Specification

ADAM10 Antibody - Product Information

Application	WB, ICC, IF
Primary Accession	O14672
Other Accession	NP_001101 , 4557251
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	85 kDa KDa
Application Notes	ADAM10 can be used for detection of ADAM10 by Western blot at 1 - 2 µg/mL. This polyclonal antibody can also detect ADAM10 by immunohistochemistry at 2 µg/mL. For immunofluorescence start at 10 µg/mL.

ADAM10 Antibody - Additional Information

Gene ID **102**

Other Names

ADAM10 Antibody: RAK, kuz, AD10, AD18, MADM, CD156c, HsT18717, KUZ, Disintegrin and metalloproteinase domain-containing protein 10, CDw156, ADAM 10, ADAM metalloproteinase domain 10

Target/Specificity

ADAM10;

Reconstitution & Storage

ADAM10 antibody can be stored at 4°C for three months and -20°C, stable for up to one year. As with all antibodies care should be taken to avoid repeated freeze thaw cycles. Antibodies should not be exposed to prolonged high temperatures.

Precautions

ADAM10 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

ADAM10 Antibody - Protein Information

Name ADAM10 ([HGNC:188](#))

Synonyms KUZ, MADM

Function

Transmembrane metalloprotease which mediates the ectodomain shedding of a myriad of transmembrane proteins, including adhesion proteins, growth factor precursors and cytokines

being essential for development and tissue homeostasis (PubMed:11786905, PubMed:12475894, PubMed:20592283, PubMed:24990881, PubMed:26686862, PubMed:28600292, PubMed:31792032). Associates with six members of the tetraspanin superfamily TspanC8 which regulate its exit from the endoplasmic reticulum and its substrate selectivity (PubMed:26686862, PubMed:28600292, PubMed:31792032, PubMed:34739841, PubMed:37516108). Cleaves the membrane-bound precursor of TNF-alpha at '76-Ala-|-Val-77' to its mature soluble form. Responsible for the proteolytical release of soluble JAM3 from endothelial cells surface (PubMed:20592283). Responsible for the proteolytic release of several other cell-surface proteins, including heparin-binding epidermal growth-like factor, ephrin-A2, CD44, CDH2 and for constitutive and regulated alpha-secretase cleavage of amyloid precursor protein (APP) (PubMed:11786905, PubMed:26686862, PubMed:29224781, PubMed:34739841). Contributes to the normal cleavage of the cellular prion protein (PubMed:11477090). Involved in the cleavage of the adhesion molecule L1 at the cell surface and in released membrane vesicles, suggesting a vesicle-based protease activity (PubMed:12475894). Controls also the proteolytic processing of Notch and mediates lateral inhibition during neurogenesis (By similarity). Responsible for the FasL ectodomain shedding and for the generation of the remnant ADAM10-processed FasL (FasL APL) transmembrane form (PubMed:17557115). Also cleaves the ectodomain of the integral membrane proteins CORIN and ITM2B (PubMed:19114711, PubMed:21288900). Mediates the proteolytic cleavage of LAG3, leading to release the secreted form of LAG3 (By similarity). Mediates the proteolytic cleavage of IL6R and IL11RA, leading to the release of secreted forms of IL6R and IL11RA (PubMed:26876177). Enhances the cleavage of CHL1 by BACE1 (By similarity). Cleaves NRCAM (By similarity). Cleaves TREM2, resulting in shedding of the TREM2 ectodomain (PubMed:24990881). Involved in the development and maturation of glomerular and coronary vasculature (By similarity). During development of the cochlear organ of Corti, promotes pillar cell separation by forming a ternary complex with CADH1 and EPHA4 and cleaving CADH1 at adherens junctions (By similarity). May regulate the EFNA5-EPHA3 signaling (PubMed:16239146). Regulates leukocyte transmigration as a sheddase for the adherens junction protein VE-cadherin/CDH5 in endothelial cells (PubMed:28600292).

Cellular Location

Cell membrane; Single-pass type I membrane protein. Golgi apparatus membrane; Single-pass type I membrane protein. Cytoplasmic vesicle, clathrin-coated vesicle. Cell projection, axon {ECO:0000250|UniProtKB:O35598}. Cell projection, dendrite {ECO:0000250|UniProtKB:O35598}. Cell junction, adherens junction. Cytoplasm Note=Is localized in the plasma membrane but is also

expressed in the Golgi apparatus and in clathrin-coated vesicles derived likely from the Golgi (PubMed:12475894). During long term depression, it is recruited to the cell membrane by DLG1 (PubMed:23676497). The immature form is mainly located near cytoplasmic fibrillar structures, while the mature form is predominantly located at zonula adherens and the cell membrane (PubMed:30463011). The localization and clustering of mature ADAM10 to zonula adherens is regulated by AFDN, TSPAN33, PLEKHA7 and PDZD11 (PubMed:30463011).

Tissue Location

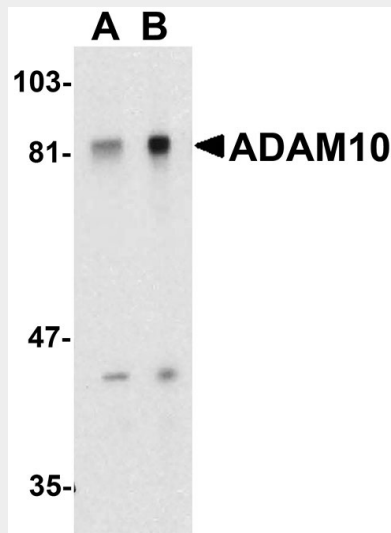
Expressed in the brain (at protein level) (PubMed:23676497). Expressed in spleen, lymph node, thymus, peripheral blood leukocyte, bone marrow, cartilage, chondrocytes and fetal liver (PubMed:11511685, PubMed:9016778).

ADAM10 Antibody - Protocols

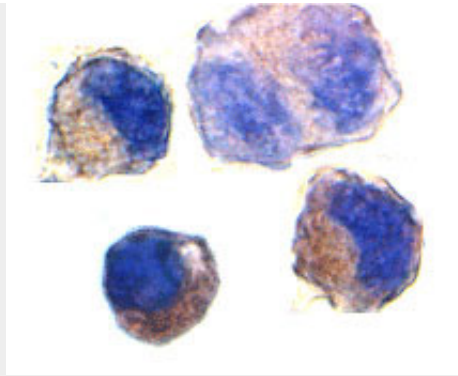
Provided below are standard protocols that you may find useful for product applications.

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

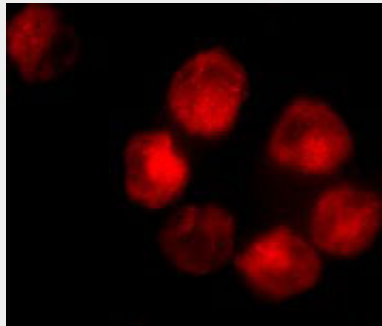
ADAM10 Antibody - Images



Western blot analysis of ADAM10 in Jurkat whole cell lysate with ADAM10 antibody at (A) 1 and (B) 2 µg/mL.



Immunocytochemistry staining of K562 cells using ADAM10 antibody at 2 µg/mL.



Immunofluorescence of ADAM10 in K562 cells with ADAM10 antibody at 10 µg/mL.

ADAM10 Antibody - Background

ADAM10 Antibody: Proinflammatory cytokine tumor necrosis factor- α (TNF- α) contributes to a variety of inflammatory responses and programmed cell death. Notch receptor and its ligand participate in cell fate decisions during vertebrate development and are associated with several human disorders, including a T-cell lymphoma. TNF- α , notch and its ligand delta are all membrane-bound molecules, which are cleaved by proteases to release mature proteins or functional receptor. ADAM10, a metalloprotease-disintegrin in the family of mammalian ADAM (for a disintegrin and metalloprotease), was recently identified to cleave TNF- α , notch and its ligand delta. The genes encoding human, mouse, and bovine ADAM10 were recently cloned and designated ADAM 10, kuzbanian (KUZ), and MADM, respectively. ADAM10 mRNA is expressed in a variety of human and bovine tissues.

ADAM10 Antibody - References

- Rosendahl MS, Ko SC, Long DL, et al. Identification and characterization of a pro-tumor necrosis factor- α -processing enzyme from the ADAM family of zinc metalloproteases. *J Biol Chem* 1997;272:24588-93
- Pan D, Rubin GM. Kuzbanian controls proteolytic processing of Notch and mediates lateral inhibition during *Drosophila* and vertebrate neurogenesis. *Cell* 1997;90:271-80
- Qi H, Rand MD, Wu X, Sestan N, Wang W, Rakic P, Xu T, Artavanis-Tsakonas S. Processing of the notch ligand delta by the metalloprotease Kuzbanian. *Science* 1999;283:91-4
- Howard L, Lu X, Mitchell S, Griffiths S, Glynn P. Molecular cloning of MADM: a catalytically active mammalian disintegrin-metalloprotease expressed in various cell types. *Biochem J* 1996;317:45-50. (RD1299)