

Uba5 Antibody (N-term) Blocking Peptide
Synthetic peptide
Catalog # BP2186a**Specification**

Uba5 Antibody (N-term) Blocking Peptide - Product InformationPrimary Accession [O9GZZ9](#)**Uba5 Antibody (N-term) Blocking Peptide - Additional Information****Gene ID** 79876**Other Names**

Ubiquitin-like modifier-activating enzyme 5, Ubiquitin-activating enzyme 5, ThiFP1, UFM1-activating enzyme, Ubiquitin-activating enzyme E1 domain-containing protein 1, UBA5, UBE1DC1

Target/Specificity

The synthetic peptide sequence used to generate the antibody [AP2186a](/product/products/AP2186a) was selected from the N-term region of human Uba5. A 10 to 100 fold molar excess to antibody is recommended. Precise conditions should be optimized for a particular assay.

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.

Uba5 Antibody (N-term) Blocking Peptide - Protein Information**Name** UBA5 {ECO:0000303|PubMed:15071506, ECO:0000312|HGNC:HGNC:23230}**Function**

E1-like enzyme which specifically catalyzes the first step in ufmylation (PubMed:[15071506](http://www.uniprot.org/citations/15071506), PubMed:[18442052](http://www.uniprot.org/citations/18442052), PubMed:[25219498](http://www.uniprot.org/citations/25219498), PubMed:[20368332](http://www.uniprot.org/citations/20368332), PubMed:[27653677](http://www.uniprot.org/citations/27653677), PubMed:[26929408](http://www.uniprot.org/citations/26929408), PubMed:[27545674](http://www.uniprot.org/citations/27545674), PubMed:[30412706](http://www.uniprot.org/citations/30412706), PubMed:[27545681](http://www.uniprot.org/citations/27545681)). Activates

UFM1 by first adenylating its C-terminal glycine residue with ATP, and thereafter linking this residue to the side chain of a cysteine residue in E1, yielding a UFM1- E1 thioester and free AMP (PubMed:20368332, PubMed:27653677, PubMed:26929408, PubMed:30412706). Activates UFM1 via a trans-binding mechanism, in which UFM1 interacts with distinct sites in both subunits of the UBA5 homodimer (PubMed:27653677). Trans-binding also promotes stabilization of the UBA5 homodimer, and enhances ATP-binding (PubMed:29295865). Transfer of UFM1 from UBA5 to the E2-like enzyme UFC1 also takes place using a trans mechanism (PubMed:27653677). Ufmylation is involved in reticulophagy (also called ER-phagy) induced in response to endoplasmic reticulum stress (PubMed:32160526). Ufmylation is essential for erythroid differentiation of both megakaryocytes and erythrocytes (By similarity).

Cellular Location

Cytoplasm. Nucleus Endoplasmic reticulum membrane. Golgi apparatus. Note=Localizes mainly in the cytoplasm, while it localizes to the nucleus in presence of SUMO2 (PubMed:18442052). Interaction with GABARAPL2 promotes localization to the endoplasmic reticulum membrane (PubMed:30990354)

Tissue Location

Widely expressed..

Uba5 Antibody (N-term) Blocking Peptide - Protocols

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

- [Blocking Peptides](#)

Uba5 Antibody (N-term) Blocking Peptide - Images

Uba5 Antibody (N-term) Blocking Peptide - Background

Various ubiquitin-like (UBL) post-translational modifiers contribute critically to the protein degradation pathway. These UBLs are covalently linked to most target proteins through an enzymatic cascade analogous to ubiquitylation, consisting of E1 (activating), E2 (conjugating), and E3 (ligating) enzymes. Uba5 is an E1-like enzyme that belongs to the ubiquitin-activating enzyme family, and activates UFM1, a novel ubiquitin-fold modifier.

Uba5 Antibody (N-term) Blocking Peptide - References

Komatsu, M., et al., EMBO J. 23(9):1977-1986 (2004).