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Anti-UBA5 Antibody

Catalog # AP60415

Product Information

Application	WB, IHC
Primary Accession	Q9GZZ9
Reactivity	Human, Mouse, Rat, Mk
Host	Rabbit
Clonality	Polyclonal
Calculated MW	44863

Additional Information

Gene ID	79876
Other Names	UBE1DC1; Ubiquitin-like modifier-activating enzyme 5; Ubiquitin-activating enzyme 5; ThiFP1; UFM1-activating enzyme; Ubiquitin-activating enzyme E1 domain-containing protein 1
Target/Specificity	KLH-conjugated synthetic peptide encompassing a sequence within the C-term region of human UBA5. The exact sequence is proprietary.
Dilution	WB~~WB (1/500 - 1/1000), IHC (1/100 - 1/200) IHC~~WB (1/500 - 1/1000), IHC (1/100 - 1/200)
Format	Liquid in 0.42% Potassium phosphate, 0.87% Sodium chloride, pH 7.3, 30% glycerol, and 0.01% sodium azide.
Storage	Store at -20 °C.Stable for 12 months from date of receipt

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, PubMed:18442052, PubMed:20368332, PubMed:25219498, PubMed:26929408, PubMed:27545674, PubMed:27545681, PubMed:27653677, PubMed:30412706, PubMed:30626644, PubMed:34588452). 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:26929408, PubMed:27653677, 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, PubMed:34588452). Ufmylation plays a key role in various processes, such as ribosome recycling, response to DNA damage, interferon response or reticulophagy (also called ER-phagy) (PubMed:30412706, PubMed:32160526, PubMed:35394863). Ufmylation is essential for erythroid differentiation of both megakaryocytes and erythrocytes (By similarity).

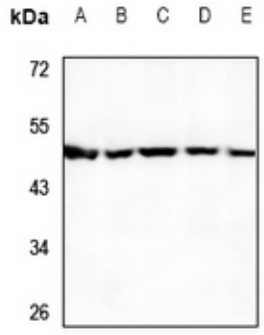
Cellular Location

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)

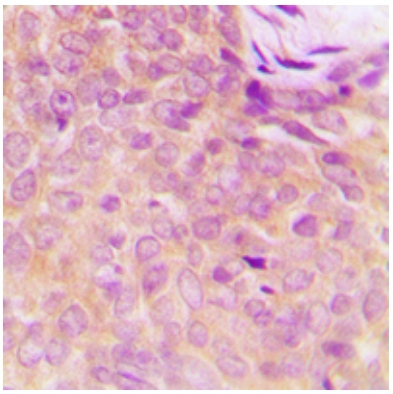
Tissue Location

Widely expressed..

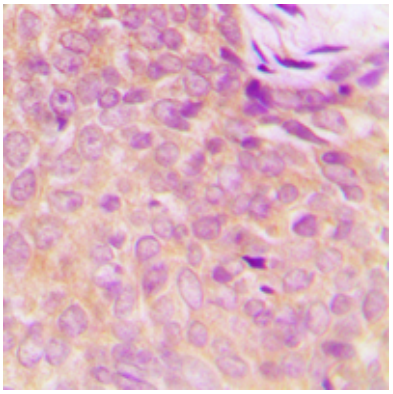
Images



Western blot analysis of UBA5 expression in C6 (A), CT26 (B), A549 (C), HepG2 (D), HCT116 (E) whole cell lysates. (Predicted band size: 44 kD; Observed band size: 45 kD)



Immunohistochemical analysis of UBA5 staining in human breast cancer formalin fixed paraffin embedded tissue section. The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH 6.0). The section was then incubated with the antibody at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chromogen. The section was then counterstained with haematoxylin and mounted with DPX.



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