

CIP75 Antibody

Catalog # ASC10945

Product Information

Application	WB, E, IHC-P
Primary Accession	Q9NRR5
Other Accession	Q9NRR5 , 45476982
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	63853
Concentration (mg/ml)	1 mg/mL
Conjugate	Unconjugated
Application Notes	CIP75 antibody can be used for detection of CIP75 by Western blot at 1 - 2 μ g/mL. Antibody can also be used for immunohistochemistry starting at 5 μ g/mL.

Additional Information

Gene ID	56893
Other Names	Ubiquilin-4, Ataxin-1 interacting ubiquitin-like protein, A1Up, Ataxin-1 ubiquitin-like-interacting protein A1U, Connexin43-interacting protein of 75 kDa, CIP75, UBQLN4, C1orf6, CIP75, UBIN
Target/Specificity	UBQLN4;
Reconstitution & Storage	CIP75 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	CIP75 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	UBQLN4 {ECO:0000303 PubMed:27113755, ECO:0000312 HGNC:HGNC:1237}
Function	Regulator of protein degradation that mediates the proteasomal targeting of misfolded, mislocalized or accumulated proteins (PubMed: 15280365 , PubMed: 27113755 , PubMed: 29666234 , PubMed: 30612738). Acts by binding polyubiquitin chains of target proteins via its UBA domain and by interacting with subunits of the proteasome via its ubiquitin-like domain (PubMed: 15280365 , PubMed: 27113755 , PubMed: 30612738). Key regulator of DNA repair that represses homologous recombination repair: in response to

DNA damage, recruited to sites of DNA damage following phosphorylation by ATM and acts by binding and removing ubiquitinated MRE11 from damaged chromatin, leading to MRE11 degradation by the proteasome (PubMed:[30612738](#)). MRE11 degradation prevents homologous recombination repair, redirecting double-strand break repair toward non-homologous end joining (NHEJ) (PubMed:[30612738](#)). Specifically recognizes and binds mislocalized transmembrane-containing proteins and targets them to proteasomal degradation (PubMed:[27113755](#)). Collaborates with DESI1/POST in the export of ubiquitinated proteins from the nucleus to the cytoplasm (PubMed:[29666234](#)). Also plays a role in the regulation of the proteasomal degradation of non-ubiquitinated GJA1 (By similarity). Acts as an adapter protein that recruits UBQLN1 to the autophagy machinery (PubMed:[23459205](#)). Mediates the association of UBQLN1 with autophagosomes and the autophagy-related protein LC3 (MAP1LC3A/B/C) and may assist in the maturation of autophagosomes to autolysosomes by mediating autophagosome-lysosome fusion (PubMed:[23459205](#)).

Cellular Location

Nucleus. Cytoplasm. Chromosome Endoplasmic reticulum {ECO:0000250|UniProtKB:Q99NB8}. Cytoplasm, perinuclear region {ECO:0000250|UniProtKB:Q99NB8}. Cytoplasmic vesicle, autophagosome. Note=Colocalizes with the proteasome, both in nucleus and cytoplasm (PubMed:15280365). Exported from the nucleus following interaction with DESI1/POST (PubMed:29666234). In response to DNA damage and phosphorylation at Ser-318 by ATM, localizes to the nucleus and is recruited to sites of DNA damage (PubMed:30612738).

Tissue Location

Highly expressed in pancreas, kidney, skeletal muscle, heart and throughout the brain, and at lower levels in placenta, lung and liver.

Background

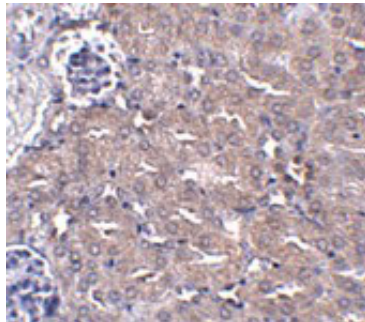
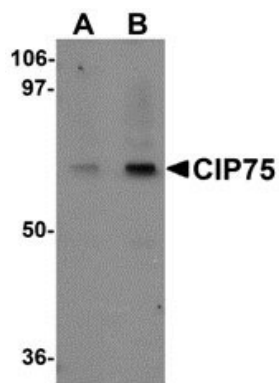
CIP75 Antibody: The ubiquitin-proteasome pathway of protein degradation is one of the mechanisms that ensure the proper level of cellular proteins. The ubiquitin-like (UbL) and ubiquitin-associated (UBA) domain containing protein family is thought to be involved in proteasomal degradation. One such protein is CIP75, also known as ubiquilin-4, interacts with a number of proteins such as Ataxin-1 and Connexin-43, resulting in an increased rate of turnover of these proteins. Overexpression CIP75 led to a significant reduction of Connexin-43 half-life, with the opposite being observed in siRNA knockdown experiments. CIP75 contains an N-terminal UbL domain which is thought to interact with proteins of the 26S proteasome complex and a C-terminal UBA domain which appears to mediate its interaction with Connexin-75. At least three isoforms of CIP75 are known to exist.

References

- Su V and Lau AF. Ubiquitin-like and ubiquitin-associated domain proteins: significance in proteasomal degradation. *Cell. Mol. Life Sci.*2009; 66:2819-33.
- Davidson JD, Riley B, Burright EN, et al. Identification and characterization of an ataxin-1-interacting protein: A1Up, a ubiquitin-like protein. *Hum. Mol. Genet.*2000; 9:2305-12.
- Li X, Su V, Kurata WE, et al. A novel Connexin43-interacting protein, CIP75, which belongs to the UbL-UBA protein family, regulates the turnover of Connexin4 J. *Biol. Chem.*2008; 283:5748-59.

Images

Western blot analysis of CIP75 in 3T3 cell lysate with CIP75 antibody at (A) 1 and (B) 2 µg/mL.



Immunohistochemistry of CIP75 in mouse kidney tissue with CIP75 antibody at 5 µg/mL.

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