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AIMP2 Antibody

Catalog # ASC11715

Product Information

Application	WB, IF, E, IHC-P
Primary Accession	Q13155
Other Accession	NP_006294, 11125770
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	35349
Concentration (mg/ml)	1 mg/mL
Conjugate	Unconjugated
Application Notes	AIMP2 antibody can be used for detection of AIMP2 by Western blot at 1 - 2 g/ml.

Additional Information

Gene ID	7965
Other Names	Aminoacyl tRNA synthase complex-interacting multifunctional protein 2, Multisynthase complex auxiliary component p38, Protein JTV-1, AIMP2, JTV1
Target/Specificity	AIMP2; AIMP2 antibody is human specific. AIMP2 antibody is predicted to not cross-react with AIMP1.
Reconstitution & Storage	AIMP2 antibody can be stored at 4℃ for three months and -20℃, stable for up to one year.
Precautions	AIMP2 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	AIMP2
Synonyms	JTV1
Function	Required for assembly and stability of the aminoacyl-tRNA synthase complex (PubMed:19131329). Mediates ubiquitination and degradation of FUBP1, a transcriptional activator of MYC, leading to MYC down-regulation which is required for aveolar type II cell differentiation. Blocks MDM2-mediated ubiquitination and degradation of p53/TP53. Functions as a proapoptotic factor.
Cellular Location	Cytoplasm, cytosol. Nucleus {ECO:0000250|UniProtKB:Q8R010}. Note=Following DNA damage, dissociates from the aminoacyl-tRNA synthase

complex and translocates from the cytoplasm to the nucleus. {ECO:0000250|UniProtKB:Q8R010}

Background

AIMP2 was initially identified as a part of an aminoacyl-tRNA synthesase complex (1). It was later discovered to be a cofactor and substrate of Parkin, a Ring-type E3 ubiquitin ligase that is important for the survival of dopamine neurons in Parkinson's disease; accumulation of AIMP2 in these cells lead to catecholaminergic cell death (2). AIMP2 can also bind to TRAF2, a key player in the TNF-alpha signaling pathway, causing the ubiquitination of TRAF2 by cIAP1, leading to TNF-alpha-dependent apoptosis (3). Finally, AIMP2 has been suggested to function as a tumor suppressor (4).

References

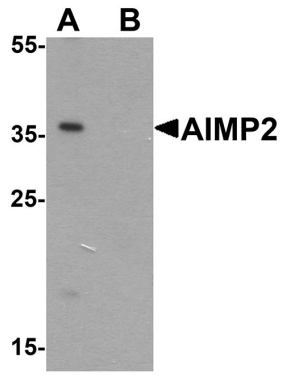
Quevillon S, Robinson JC, Berthonneau E, et al. Macromolecular assemblage of aminoacyl-tRNA synthetases: identification of protein-protein interactions and characterization of a core protein. J. Mol. Biol. 1999; 285:183-95.

Ko HS, von Coelln R, Sriram SR, et al. Accumulation of the authentic parkin substrate aminoacyl-tRNA synthetase cofactor, p38/JTV-1, leads to catecholaminergic cell death. J. Neruosci. 2005; 25:7968-78.

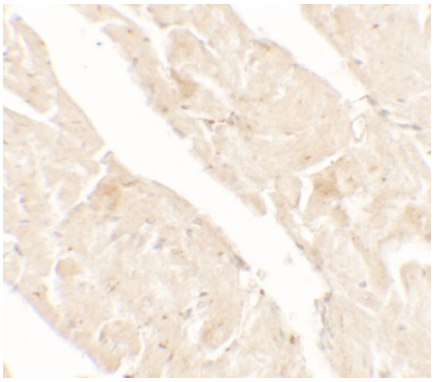
Choi JW, Kim DG, Park MC, et al. AIMP2 promotes TNFalpha-dependent apoptosis via ubiquitin-mediated degradation of TRAF2. J. Cell Sci. 2009; 122:2710-5.

Choi JW, UM JY, Kundu JK, et al. Multidirectional tumor-suppressive activity of AIMP2/p38 and the enhanced susceptibility of AIMP2 heterozygous mice to carcinogenesis. Carcinogenesis 2009; 30:1638-44.

Images

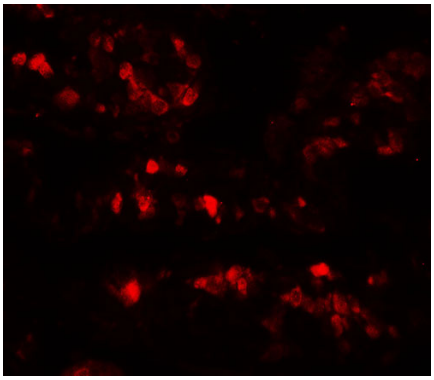


Western blot analysis of AIMP2 in HeLa cell lysate with AIMP2 antibody at 1 µg/ml in (A) the absence and (B) the presence of blocking peptide.



Immunohistochemistry of AIMP2 in rat small intestine tissue with AIMP2 antibody at 5 µg/mL.

Immunofluorescence of AIMP2 in rat small intestine tissue with AIMP2 antibody at 20 µg/mL.



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