10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

AIMP1 Antibody

Catalog # ASC11714

Product Information

Application	WB, E, IHC-P
Primary Accession	Q12904
Other Accession	NP_001135888, 215490011
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	34353
Concentration (mg/ml)	1 mg/mL
Conjugate	Unconjugated
Application Notes	AIMP1 antibody can be used for detection of AIMP1 by Western blot at 0.5 - 1 g/ml.

Additional Information

Gene ID	9255
Other Names	Aminoacyl tRNA synthase complex-interacting multifunctional protein 1, Multisynthase complex auxiliary component p43, Endothelial monocyte-activating polypeptide 2, EMAP-2, Endothelial monocyte-activating polypeptide II, EMAP-II, Small inducible cytokine subfamily E member 1, AIMP1, EMAP2, SCYE1
Target/Specificity	AIMP1; AIMP1 antibody is human, mouse and rat reactive. At least two isoforms of AIMP1 are known to exist; this antibody will recognize both isoforms. AIMP1 antibody is predicted to not cross-react with AIMP2.
Reconstitution & Storage	AIMP1 antibody can be stored at 4℃ for three months and -20℃, stable for up to one year.
Precautions	AIMP1 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	AIMP1
Synonyms	EMAP2, SCYE1
Function	Non-catalytic component of the multisynthase complex. Stimulates the catalytic activity of cytoplasmic arginyl-tRNA synthase (PubMed:10358004). Binds tRNA. Possesses inflammatory cytokine activity (PubMed:11306575). Negatively regulates TGF-beta signaling through stabilization of SMURF2 by binding to SMURF2 and inhibiting its SMAD7- mediated degradation (By

	similarity). Involved in glucose homeostasis through induction of glucagon secretion at low glucose levels (By similarity). Promotes dermal fibroblast proliferation and wound repair (PubMed:16472771). Regulates KDELR1-mediated retention of HSP90B1/gp96 in the endoplasmic reticulum (By similarity). Plays a role in angiogenesis by inducing endothelial cell migration at low concentrations and endothelial cell apoptosis at high concentrations (PubMed:12237313). Induces maturation of dendritic cells and monocyte cell adhesion (PubMed:11818442). Modulates endothelial cell responses by degrading HIF-1A through interaction with PSMA7 (PubMed:19362550).
Cellular Location	Nucleus. Cytoplasm, cytosol. Secreted. Endoplasmic reticulum {ECO:0000250|UniProtKB:P31230}. Golgi apparatus {ECO:0000250|UniProtKB:P31230}. Note=Enriched in secretory vesicles of pancreatic alpha cells and secreted from the pancreas in response to low glucose levels (By similarity). Secreted in response to hypoxia (PubMed:10850427). Also secreted in response to both apoptotic and necrotic cell death. {ECO:0000250|UniProtKB:P31230, ECO:0000269|PubMed:10850427}

Background

AIMP1 (Endothelial monocyte-activating polypeptide II, EMAP2) is a proinflammatory cytokine for monocytes and granulocytes (1). It is specifically induced by apoptosis and is involved in the control of angiogenesis, inflammation, and wound healing (1,2). AIMP1 was identified as one of three auxiliary factors of the mammalian aminoacyl tRNA synthetase (ARS) complex. It binds and facilitates the catalytic reaction of arginyl-tRNA synthetase (2,3). Recent studies show that CD23 plays an essential role in the AIMP1-induced immune response and might be a target in the treatment of inflammatory diseases (4).

References

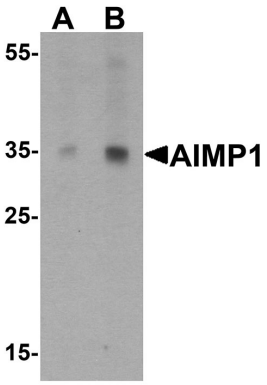
Park SG, Jung KH, Lee JS, et al. Precursor of pro-apoptotic cytokine modulates aminoacylation activity of tRNA synthetase. J. Biol. Chem. 1999; 274:16673–6.

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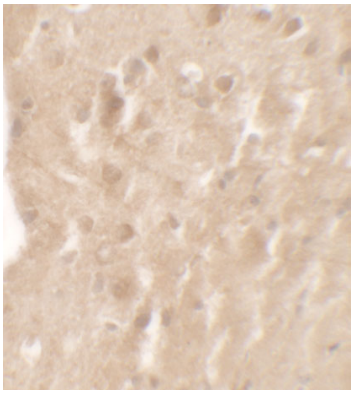
Quevillon S, Agou F, Robinson JC, et al. The p43 component of the mammalian multi-synthetase complex is likely to be the precursor of the endothelial monocyte-activating polypeptide II cytokine. J. Biol. Chem. 1997; 272:32573–9.

Kwon HS, Park MC, Kim DG, et al. Identification of CD23 as a functional receptor for the proinflammatory cytokine AIMP1/p43. J. Cell Sci. 2012; 125:4620-9.

Images



Western blot analysis of AIMP1 in rat brain tissue lysate with AIMP1 antibody at (A) 0.5 and (B) 1 µg/ml.



Immunohistochemistry of AIMP1 in mouse brain tissue with AIMP1 antibody at 5 µg/mL.

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