

ERAP1 Antibody

Catalog # ASC11694

Product Information

Application	WB, IF, E, IHC-P
Primary Accession	Q9NZ08
Other Accession	NP_057526 , 94818901
Reactivity	Human, Mouse
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	107235
Concentration (mg/ml)	1 mg/mL
Conjugate	Unconjugated
Application Notes	ERAP1 antibody can be used for detection of ERAP1 by Western blot at 1 - 2 μ g/ml.

Additional Information

Gene ID	51752
Other Names	Endoplasmic reticulum aminopeptidase 1, 3.4.11.-, ARTS-1, Adipocyte-derived leucine aminopeptidase, A-LAP, Aminopeptidase PILS, Puromycin-insensitive leucyl-specific aminopeptidase, PILS-AP, Type 1 tumor necrosis factor receptor shedding aminopeptidase regulator, ERAP1, APPILS, ARTS1, KIAA0525
Target/Specificity	ERAP1; ERAP1 antibody is human and mouse reactive. At least two isoforms of ERAP1 are known to exist; this antibody will detect both isoforms. ERAP1 antibody is predicted to not cross-react with ERAP2.
Reconstitution & Storage	ERAP1 antibody can be stored at 4°C for three months and -20°C, stable for up to one year.
Precautions	ERAP1 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	ERAP1
Synonyms	APPILS, ARTS1, KIAA0525
Function	Aminopeptidase that plays a central role in peptide trimming, a step required for the generation of most HLA class I-binding peptides. Peptide trimming is essential to customize longer precursor peptides to fit them to the correct length required for presentation on MHC class I molecules. Strongly prefers substrates 9-16 residues long (PubMed: 16286653 ,

PubMed:[26224046](#)). Rapidly degrades 13-mer to a 9-mer and then stops (PubMed:[16286653](#)). Preferentially hydrolyzes the residue Leu and peptides with a hydrophobic C-terminus, while it has weak activity toward peptides with charged C-terminus. May play a role in the inactivation of peptide hormones. May be involved in the regulation of blood pressure through the inactivation of angiotensin II and/or the generation of bradykinin in the kidney.

Cellular Location	Endoplasmic reticulum membrane; Single-pass type II membrane protein
Tissue Location	Ubiquitous.

Background

The endoplasmic reticulum (ER) aminopeptidase 1 (ERAP1), a member of the peptidase M1 family, plays a central role in peptide trimming, a step required for the generation of most HLA class I-binding peptides (1,2). It is also designated as adipocyte-derived leucine aminopeptidase (A-LAP), puromycin-insensitive leucine-specific aminopeptidase (PILS-AP) and aminopeptidase regulator of TNFR1 shedding (ARTS-1) (3). ERAP1 is localized to the lumen of the ER and induced by interferon. It may be involved in the regulation of blood pressure through the inactivation of angiotensin II and/or the generation of bradykinin in the kidney (3,4).

References

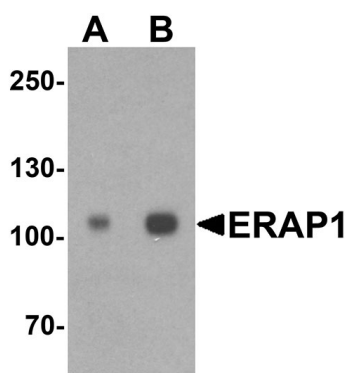
Hattori A, Kitatani K, Matsumoto H, et al. Characterization of recombinant human adipocytederived leucine aminopeptidase expressed in Chinese hamster ovary cells. *J. Biochem.* 2000; 128:755-62.

Saric T, Chang SC, Hattori A, et al. An IFN-gamma induced aminopeptidase in the ER, ERAP1, trims precursors to MHC class I-presented peptides. *Nat. Immunol.* 2002; 3:1169-76.

Cui X, Hawari F, Alsaaty S, et al. Identification of ARTS-1 as a novel TNFR1-binding protein that promotes TNFR1 ectodomain shedding. *J. Clin. Invest.* 2002; 110:515-26.

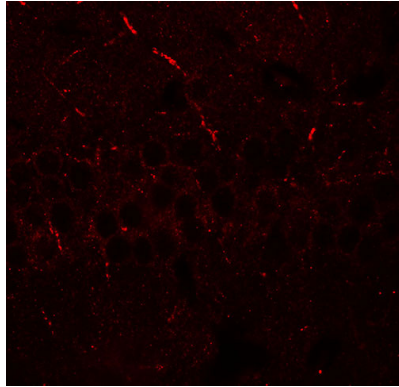
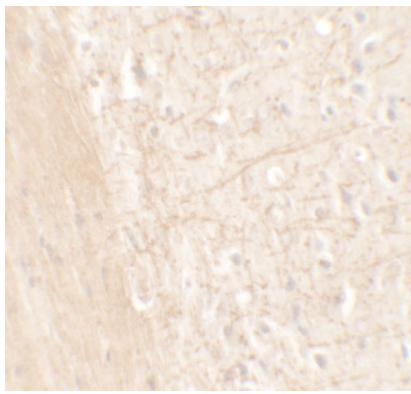
Akada T, Yamazaki T, Miyashita H, et al. Puromycin insensitive leucyl-specific aminopeptidase (PILSAP) is involved in the activation of endothelial integrins. *J. Cell Physiol.* 2002; 193: 253-62.

Images



Western blot analysis of ERAP1 in SK-N-SH cell lysate with ERAP1 antibody at (A) 1 and (B) 2 µg/ml.

Immunohistochemistry of ERAP1 in mouse brain tissue with ERAP1 antibody at 5 µg/mL.



Immunofluorescence of ERAP1 in mouse brain tissue with ERAP1 antibody at 20 $\mu\text{g/mL}$.

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