

ERAP1 (H-120): sc-98254

BACKGROUND

The endoplasmic reticulum (ER) aminopeptidase 1 (ERAP1) is localized to the lumen of the ER, which removes NH₂-terminal residues from many antigenic precursors for MHC class I peptide presentation. ERAP1 is also designated adipocyte-derived leucine aminopeptidase (A-LAP), puromycin-insensitive leucine-specific aminopeptidase (PILS-AP) and aminopeptidase regulator of TNFR1 shedding (ARTS-1). Peptides presented by MHC class I on the surface of a cell must be eight to 11 residues long, and ERAP1 specifically trims peptides of 9 amino acids or more. ERAP1 is induced by interferon- γ and encoded for by the ARTS-1 gene, which maps to human chromosome 5q15. ERAP1 is thought to inactivate several bioactive peptides, including Angiotensin II, and, subsequently, may be involved in the regulation of blood pressure. It may have a role in angiogenesis by regulating the proliferation and migration of endothelial cells, and is characterized as a TNFR1 binding protein that promotes TNFR1 shedding.

REFERENCES

- Hattori, A., et al. 2000. Characterization of recombinant human adipocyte-derived leucine aminopeptidase expressed in Chinese hamster ovary cells. *J. Biochem.* 128: 755-762.
- Hattori, A., et al. 2001. Genomic organization of the human adipocyte-derived leucine aminopeptidase gene and its relationship to the placental leucine aminopeptidase/oxytocinase gene. *J. Biochem.* 130: 235-241.
- Saric, T., et al. 2002. An IFN- γ -induced aminopeptidase in the ER, ERAP1, trims precursors to MHC class I-presented peptides. *Nat. Immunol.* 3: 1169-1176.
- York, I.A., et al. 2002. The ER aminopeptidase ERAP1 enhances or limits antigen presentation by trimming epitopes to 8-9 residues. *Nat. Immunol.* 3: 1177-1184.
- Cui, X., et al. 2002. Identification of ARTS-1 as a novel TNFR1-binding protein that promotes TNFR1 ectodomain shedding. *J. Clin. Invest.* 110: 515-526.

CHROMOSOMAL LOCATION

Genetic locus: ERAP1 (human) mapping to 5q15; Erap1 (mouse) mapping to 13 C1.

SOURCE

ERAP1 (H-120) is a rabbit polyclonal antibody raised against amino acids 721-840 mapping near the C-terminus of ERAP1 of human origin.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

ERAP1 (H-120) is recommended for detection of ERAP1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for ERAP1 siRNA (h): sc-43577, ERAP1 siRNA (m): sc-44435, ERAP1 shRNA Plasmid (h): sc-43577-SH, ERAP1 shRNA Plasmid (m): sc-44435-SH, ERAP1 shRNA (h) Lentiviral Particles: sc-43577-V and ERAP1 shRNA (m) Lentiviral Particles: sc-44435-V.

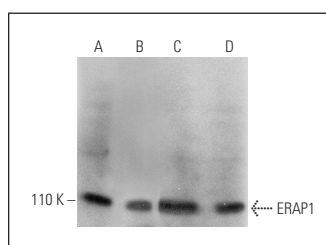
Molecular Weight of ERAP1: 106 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203, Jurkat whole cell lysate: sc-2204 or Ramos cell lysate: sc-2216.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



ERAP1 (H-120): sc-98254. Western blot analysis of ERAP1 expression in K-562 (A), Jurkat (B), Ramos (C) and THP-1 (D) whole cell lysates.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

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Try **ERAP1 (B-10): sc-271823** or **ERAP1 (731): sc-100727**, our highly recommended monoclonal alternatives to ERAP1 (H-120).