

ERAP1 (L-16): sc-26884

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 eleven residues long and ERAP1 specifically trims peptides of nine 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.
- Yamamoto, N., et al. 2002. Identification of 33 polymorphisms in the adipocyte-derived leucine aminopeptidase (ALAP) gene and possible association with hypertension. *Hum. Mutat.* 19: 251-257.
- Akada, T., et al. 2002. Puromycin insensitive leucyl-specific aminopeptidase (PILSAP) is involved in the activation of endothelial integrins. *J. Cell. Physiol.* 193: 253-262.

CHROMOSOMAL LOCATION

Genetic locus: ARTS1 (human) mapping to 5q15; Arts1 (mouse) mapping to 13 C1.

SOURCE

ERAP1 (L-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of ERAP1 of human origin.

RESEARCH USE

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

PRODUCT

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

Blocking peptide available for competition studies, sc-26884 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

ERAP1 (L-16) 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), 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).

ERAP1 (L-16) is also recommended for detection of ERAP1 in additional species, including equine.

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 or A-431 whole cell lysate: sc-2201.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

STORAGE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.



Try **ERAP1 (B-10): sc-271823** or **ERAP1 (731): sc-100727**, our highly recommended monoclonal alternatives to ERAP1 (L-16).