

ERAP2 (S-13): sc-161039

BACKGROUND

ERAP2 (endoplasmic reticulum aminopeptidase 2), also known as Leukocyte-derived arginine aminopeptidase, is a 960 amino acid single-pass transmembrane protein on the surface of the endoplasmic reticulum that functions as a heterodimer with ERAP1 to play a central role in peptide trimming, an essential step for the generation of most HLA class I-binding peptides. This form of protein modification is crucial to cleave long precursor peptides in order to fit them to the correct length as required for presentation of MHC class-I molecules on the cell surface. Widely expressed with highest levels in spleen and leukocytes, ERAP2 preferentially hydrolyzes arginine and lysine and requires zinc as a cofactor. Defects in the gene encoding ERAP2 may result in improper antigen processing, which could lead to tumor evasion from immune surveillance.

REFERENCES

1. Saveanu, L., Fruci, D. and van Endert, P. 2002. Beyond the proteasome: trimming, degradation and generation of MHC class I ligands by auxiliary proteases. *Mol. Immunol.* 39: 203-215.
2. Tanioka, T., Hattori, A., Masuda, S., Nomura, Y., Nakayama, H., Mizutani, S. and Tsujimoto, M. 2003. Human leukocyte-derived arginine aminopeptidase. The third member of the oxytocinase subfamily of aminopeptidases. *J. Biol. Chem.* 278: 32275-32283.
3. Saveanu, L., Carroll, O., Hassainya, Y. and van Endert, P. 2005. Complexity, contradictions, and conundrums: studying post-proteasomal proteolysis in HLA class I antigen presentation. *Immunol. Rev.* 207: 42-59.
4. Saveanu, L., Carroll, O., Lindo, V., Del Val, M., Lopez, D., Lepelletier, Y., Greer, F., Schomburg, L., Fruci, D., Niedermann, G. and van Endert, P.M. 2005. Concerted peptide trimming by human ERAP1 and ERAP2 aminopeptidase complexes in the endoplasmic reticulum. *Nat. Immunol.* 6: 689-697.
5. Online Mendelian Inheritance in Man, OMIM™. 2005. Johns Hopkins University, Baltimore, MD. MIM Number: 609497. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
6. Fruci, D., Ferracuti, S., Limongi, M.Z., Cunsolo, V., Giorda, E., Fraioli, R., Sibilio, L., Carroll, O., Hattori, A., van Endert, P.M. and Giacomini, P. 2006. Expression of endoplasmic reticulum aminopeptidases in EBV-B cell lines from healthy donors and in leukemia/lymphoma, carcinoma, and melanoma cell lines. *J. Immunol.* 176: 4869-4879.

CHROMOSOMAL LOCATION

Genetic locus: ERAP2 (human) mapping to 5q15.

SOURCE

ERAP2 (S-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of ERAP2 of human origin.

STORAGE

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

PRODUCT

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

Blocking peptide available for competition studies, sc-161039 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

ERAP2 (S-13) is recommended for detection of ERAP2 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg 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); non cross-reactive with ERAP1 .

Suitable for use as control antibody for ERAP2 siRNA (h): sc-91852, ERAP2 shRNA Plasmid (h): sc-91852-SH and ERAP2 shRNA (h) Lentiviral Particles: sc-91852-V.

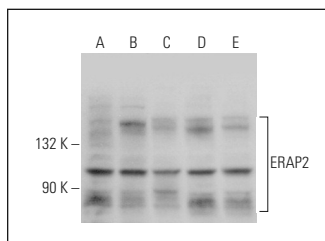
Molecular Weight of ERAP2: 110 kDa.

Positive Controls: A-431 whole cell lysate: sc-2201, HL-60 whole cell lysate: sc-2209 or HEK293 whole cell lysate: sc-45136.

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

DATA



ERAP2 (S-13): sc-161039. Western blot analysis of ERAP2 expression in HEK293 (A), A-431 (B), Jurkat (C), K-562 (D) and HL-60 (E) whole cell lysates.

RESEARCH USE

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