

MECL-1 (E-20): sc-18170

BACKGROUND

The 20S proteasome is a protease complex that is responsible for cytosolic protein degradation and generation of peptide ligands for major histocompatibility complex (MHC) class I molecules, either in their final form or in the form of amino-terminally extended precursors. Upon IFN- γ stimulation of cells, three constitutively expressed subunits of the 20S proteasome are replaced by inducible subunits LMP2 (low-molecular mass polypeptide 2), LMP7, and MECL-1 (multicatalytic endopeptidase complex-like-1, LMP10). LMP2, LMP7, and MECL-1 subunits form immunoproteasomes, which are associated with more efficient class I antigen processing and presentation. Independent assortment of LMP-2, LMP-7, and MECL-1 into different proteasome complexes can lead to 36 unique proteasome subsets, which may mediate differences in the cleavage specificities/cleavage motifs of proteins subject to constitutive- and immuno-proteasomes.

REFERENCES

1. Nandi, D., Jiang, H. and Monaco, J.J. 1996. Identification of MECL-1 (LMP-10) as the third IFN- γ -inducible proteasome subunit. *J. Immunol.* 156: 2361-2364.
2. Frisan, T., Levitsky, V., Polack, A. and Masucci, M.G. 1998. Phenotype-dependent differences in proteasome subunit composition and cleavage specificity in B cell lines. *J. Immunol.* 160: 3281-3289.
3. Schwarz, K., van Den Broek, M., Kostka, S., Kraft, R., Soza, A., Schmidtke, G., Kloetzel, P.M. and Groettrup, M. 2000. Overexpression of the proteasome subunits LMP2, LMP7, and MECL-1, but not PA28 α/β , enhances the presentation of an immunodominant lymphocytic choriomeningitis virus T cell epitope. *J. Immunol.* 165: 768-778.
4. Sijts, A.J., Ruppert, T., Rehmann, B., Schmidt, M., Koszinowski, U. and Kloetzel, P.M. 2000. Efficient generation of a hepatitis B virus cytotoxic T lymphocyte epitope requires the structural features of immunoproteasomes. *J. Exp. Med.* 191: 503-514.

CHROMOSOMAL LOCATION

Genetic locus: PSMB10 (human) mapping to 16q22.1; Psm10 (mouse) mapping to 8 D3.

SOURCE

MECL-1 (E-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of MECL-1 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.

Blocking peptide available for competition studies, sc-18170 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

MECL-1 (E-20) is recommended for detection of MECL-1 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).

MECL-1 (E-20) is also recommended for detection of MECL-1 in additional species, including equine, bovine and porcine.

Suitable for use as control antibody for MECL-1 siRNA (h): sc-42906, MECL-1 siRNA (m): sc-42907, MECL-1 shRNA Plasmid (h): sc-42906-SH, MECL-1 shRNA Plasmid (m): sc-42907-SH, MECL-1 shRNA (h) Lentiviral Particles: sc-42906-V and MECL-1 shRNA (m) Lentiviral Particles: sc-42907-V.

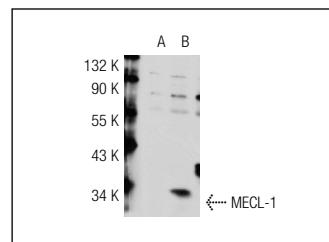
Molecular Weight of MECL-1: 29 kDa.

Positive Controls: MECL-1 (m): 293T Lysate: sc-121580 .

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



MECL-1 (E-20): sc-18170. Western blot analysis of MECL-1 expression in non-transfected: sc-117752 (A) and mouse MECL-1 transfected: sc-121580 (B) 293T whole cell lysates.

RESEARCH USE

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

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Try **MECL-1 (C-2): sc-133236**, our highly recommended monoclonal alternative to MECL-1 (E-20).