

cathepsin W (H-165): sc-32937

BACKGROUND

Cathepsin W (lymphopain) and cathepsin F comprise a novel subgroup of cathepsin proteases, and are phylogenetically distinct from other human cathepsins. The cathepsin W gene maps to chromosome 11q13.1 and contains ten exons with introns ranging from 81-119 bp. Cathepsin W protein is expressed specifically in CD8⁺ T-lymphocyte. The expression of cathepsin W first occurs during the differentiation of thymocytes to CD8⁺ T-lymphocytes, just as the thymocytes cease expression of CD4⁺ receptors. In transfected Cos-7 and Hela cells, cathepsin W localizes within the rough endoplasmic reticulum. Cathepsin W contains a unique 21-amino acid peptide insertion between the active site histidine and asparagine residues, in addition to a distinctive 8-amino acid carboxy-terminal extension. An extended loop structure in the second or beta-sheet domain and an additional disulfide bond are two of several signature features of cathepsin W. Other features of cathepsin W include an additional cysteine, an S2 pocket and an additional residue. Cathepsin W may exist as a dimer with each monomer forming a disulfide bond.

REFERENCES

1. Linnevers, C., et al. 1997. Human cathepsin W, a putative cysteine protease predominantly expressed in CD8⁺ T-lymphocytes. *FEBS Letts.* 405: 253-259.
2. Wex, T., et al. 1998. Genomic structure, chromosomal localization, and expression of human cathepsin W. *Biochem. Biophys. Res. Commun.* 248: 255-261.
3. Wex, T., et al. 1999. Human cathepsins F and W: a new subgroup of cathepsins. *Biochem. Biophys. Res. Commun.* 259: 401-407.
4. Bhandoola, A., et al. 2000. Programming for cytotoxic effector function occurs concomitantly with CD4 extinction during CD8⁺ T cell differentiation in the thymus. *Int. Immunol.* 12: 1035-1040.
5. Brinkworth, R.I., et al. 2000. Phylogenetic relationships and theoretical model of human cathepsin W (lymphopain), a cysteine proteinase from cytotoxic T lymphocytes. *Int. J. Biochem. Cell. Biol.* 32: 373-384.

CHROMOSOMAL LOCATION

Genetic locus: CTSW (human) mapping to 11q13.1; Ctsw (mouse) mapping to 19 A.

SOURCE

cathepsin W (H-165) is a rabbit polyclonal antibody raised against amino acids 128-292 mapping within an internal region of cathepsin W of human origin.

PRODUCT

Each vial contains 200 µg 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

cathepsin W (H-165) is recommended for detection of cathepsin W of mouse, rat and 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).

Suitable for use as control antibody for cathepsin W siRNA (h): sc-72807, cathepsin W siRNA (m): sc-72808, cathepsin W shRNA Plasmid (h): sc-72807-SH, cathepsin W shRNA Plasmid (m): sc-72808-SH, cathepsin W shRNA (h) Lentiviral Particles: sc-72807-V and cathepsin W shRNA (m) Lentiviral Particles: sc-72808-V.

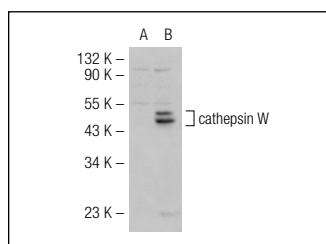
Molecular Weight of cathepsin W: 47 kDa.

Positive Controls: cathepsin W (h): 293T Lysate: sc-116060 or Jurkat whole cell lysate: sc-2204.

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



cathepsin W (H-165): sc-32937. Western blot analysis of cathepsin W expression in non-transfected: sc-117752 (A) and human cathepsin W transfected: sc-116060 (B) 293T whole cell lysates.

RESEARCH USE

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

MONOS
Satisfaction
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Try **cathepsin W (1B1): sc-32799** or **cathepsin W (E-9): sc-514373**, our highly recommended monoclonal alternatives to cathepsin W (H-165).