

ClpP (FL-277): sc-134496

BACKGROUND

ATP-dependent proteases were first identified in *E. coli*. One of these is called ClpAP or Ti, which consists of a regulatory unit, ClpA, with chaperone characteristics and an ATPase domain, and a proteolytic subunit, ClpP. This protease is involved in ATP-dependent degradation of incorrectly folded or unfolded proteins. The mammalian ClpP protein belongs to the peptidase family S14 and hydrolyzes proteins into small peptides in the presence of ATP and magnesium. ClpP is transported into mitochondrial matrix and is associated with the inner mitochondrial membrane. The functional form of ClpP is a hollow-cored particle composed of two heptameric rings joined face-to-face forming an aqueous chamber containing the proteolytic active sites. ClpX binds substrates bearing specific classes of peptide signals, denatures these proteins, and translocates them through the central pore of ClpP for degradation. ClpP displays high expression levels in skeletal muscle, intermediate levels in heart, liver and pancreas, and low levels in brain, placenta, lung and kidney.

CHROMOSOMAL LOCATION

Genetic locus: CLPP (human) mapping to 19p13.3; Clpp (mouse) mapping to 17 D.

SOURCE

ClpP (FL-277) is a rabbit polyclonal antibody raised against amino acids 1-277 representing full length ClpP 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

ClpP (FL-277) is recommended for detection of ClpP 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).

ClpP (FL-277) is also recommended for detection of ClpP in additional species, including canine and bovine.

Suitable for use as control antibody for ClpP siRNA (h): sc-60413, ClpP siRNA (m): sc-60414, ClpP shRNA Plasmid (h): sc-60413-SH, ClpP shRNA Plasmid (m): sc-60414-SH, ClpP shRNA (h) Lentiviral Particles: sc-60413-V and ClpP shRNA (m) Lentiviral Particles: sc-60414-V.

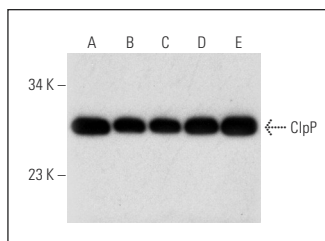
Molecular Weight of ClpP: 26-37 kDa.

Positive Controls: mouse heart extract: sc-2254, ClpP (m): 293T Lysate: sc-119316 or A-431 whole cell lysate: sc-2201.

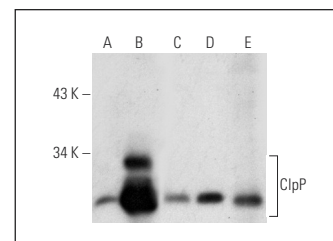
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use 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



ClpP (FL-277): sc-134496. Western blot analysis of ClpP expression in K-562 (A), A549 (B), Hep G2 (C), HeLa (D) and Jurkat (E) whole cell lysates.



ClpP (FL-277): sc-134496. Western blot analysis of ClpP expression in non-transfected 293T: sc-117752 (A), mouse ClpP transfected 293T: sc-119316 (B), Saos-2 (C) and A-431 (D) whole cell lysates and mouse heart tissue extract (E).

RESEARCH USE

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

PROTOCOLS

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


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Try **ClpP (B-12): sc-271284**, our highly recommended monoclonal alternative to ClpP (FL-277).