SANTA CRUZ BIOTECHNOLOGY, INC.

ClpP (E-19): sc-47846

SANTA CRUZ BIOTECHNOLOGY
The Power to Question

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 (E-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of 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.

Blocking peptide available for competition studies, sc-47846 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

RESEARCH USE

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

APPLICATIONS

ClpP (E-19) 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 (E-19) is also recommended for detection of ClpP in additional species, including equine, canine, bovine and porcine.

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.

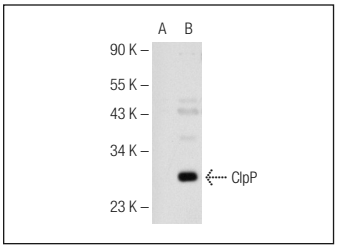
Molecular Weight of ClpP: 26-37 kDa.

Positive Controls: mouse heart extract: sc-2254, ClpP (m): 293T Lysate: sc-119316 or ClpP (h): 293T Lysate: sc-170292.

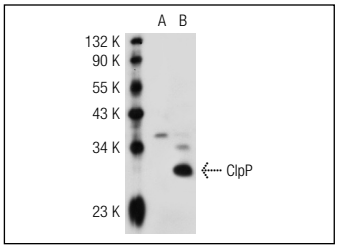
RECOMMENDED SECONDARY REAGENTS

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



ClpP (E-19): sc-47846. Western blot analysis of ClpP expression in non-transfected: sc-117752 (**A**) and human ClpP transfected: sc-170292 (**B**) 293T whole cell lysates.



ClpP (E-19): sc-47846. Western blot analysis of ClpP expression in non-transfected: sc-117752 (**A**) and mouse ClpP transfected: sc-119316 (**B**) 293T whole cell lysates.

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.