SANTA CRUZ BIOTECHNOLOGY, INC.

Cyclophilin 40 (F-5): sc-137157

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Cyclophilins are conserved, ubiquitous and abundant cytosolic peptidyl-prolyl *cis-trans* isomerases that accelerate the isomerization of XaaPro peptide bonds and the refolding of proteins. Human cyclophilin A (CyPA), an intracellular protein of 165 amino acids, is the target of cyclosporin A (CsA) and is encoded by a single unique gene conserved from yeast to humans. Cyclophilin B (CyPB) is secreted in biological fluids such as blood or milk and binds to a specific receptor present on the human lymphoblastic cell line Jurkat and on human peripheral blood lymphocytes. Cyclophilin 40 (CyP40) is a widely expressed cytoplasmic protein that catalyzes the *cis-trans* isomerization of proline imidic peptide bonds in oligopeptides. It is a widely expressed cytoplasmic protein.

REFERENCES

1. Kieffer, L.J., et al. 1993. Cyclophilin 40, a protein with homology to the P59 component of the steroid receptor complex. Cloning of the cDNA and further characterization. J. Biol. Chem. 268: 12303-12310.
2. Yokoi, H., et al. 1996. The structure and complete nucleotide sequence of the human Cyclophilin 40 (PPID) gene. Genomics 35: 448-455.
3. Gevaert, K., et al. 2003. Exploring proteomes and analyzing protein processing by mass spectrometric identification of sorted N-terminal peptides. Nat. Biotechnol. 21: 566-569.
4. Guo, H.X., et al. 2005. Novel cyclophilin D inhibitors derived from quinoxaline exhibit highly inhibitory activity against rat mitochondrial swelling and Ca^{2+} uptake/release. Acta Pharmacol. Sin. 26: 1201-1211.
5. Schinzel, A.C., et al. 2005. Cyclophilin D is a component of mitochondrial permeability transition and mediates neuronal cell death after focal cerebral ischemia. Proc. Natl. Acad. Sci. USA 102: 12005-12010.
6. Schneider, M.D., et al. 2005. Cyclophilin D: knocking on death's door. Sci. STKE 2005: pe26.

CHROMOSOMAL LOCATION

Genetic locus: PPID (human) mapping to 4q32.1; Ppid (mouse) mapping to 3 E3.

SOURCE

Cyclophilin 40 (F-5) is a mouse monoclonal antibody raised against amino acids 186-370 mapping at the C-terminus of Cyclophilin D of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain 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.

RESEARCH USE

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

APPLICATIONS

Cyclophilin 40 (F-5) is recommended for detection of Cyclophilin 40 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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 Cyclophilin 40 siRNA (h): sc-44892, Cyclophilin 40 siRNA (m): sc-44893, Cyclophilin 40 shRNA Plasmid (h): sc-44892-SH, Cyclophilin 40 shRNA Plasmid (m): sc-44893-SH, Cyclophilin 40 shRNA (h) Lentiviral Particles: sc-44892-V and Cyclophilin 40 shRNA (m) Lentiviral Particles: sc-44893-V.

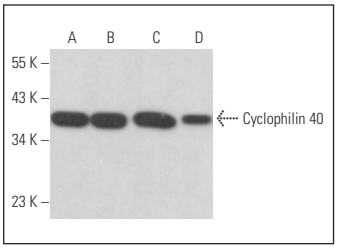
Molecular Weight of Cyclophilin 40: 41 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203, NIH/3T3 whole cell lysate: sc-2210 or Cyclophilin 40 (m): 293T Lysate: sc-119555.

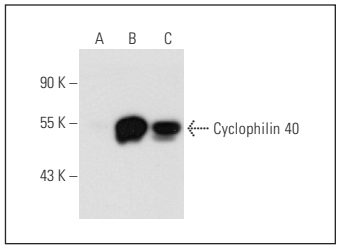
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



Cyclophilin 40 (F-5): sc-137157. Western blot analysis of Cyclophilin 40 expression in RAW 264.7 (**A**), K-562 (**B**) and NIH/3T3 (**C**) whole cell lysates and rat spleen tissue extract (**D**).



Cyclophilin 40 (F-5): sc-137157. Western blot analysis of Cyclophilin 40 expression in non-transfected 293T: sc-117752 (**A**), mouse Cyclophilin 40 transfected 293T: sc-119555 (**B**) and NIH/3T3 (**C**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Ying, L., et al. 2015. Inhibition of ovarian cancer cell growth by a novel TAK1 inhibitor LYTAK1. Cancer Chemother. Pharmacol. 76: 641-650.

PROTOCOLS

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