SANTA CRUZ BIOTECHNOLOGY, INC.

CyPB (C-15): sc-20361

BACKGROUND

The immunosuppressant cyclosporin A (CsA) forms a trimolecular complex with cyclophilin and calcineurins to inhibit calcineurin phosphatase activity. 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 intra-cellular protein of 165 amino acids, is the target of the CsA and is encoded by a single unique gene conserved from yeast to humans. CyPA is known for its involvement in T cell differentiation and proliferation and is highly expressed in brain. CyPA is incorporated into the virion of the type 1 human immunodeficiency virus (HIV-1) via a direct interaction with the capsid domain of the viral Gag polyprotein and is crucial for efficient viral replication. Cyclophilin B (CyPB) is a member of the cyclophilin family with specific N- and C-terminal extensions. Unlike CyPA, CyPB has a signal sequence leading to its translocation in the endoplasmic reticulum. 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.

REFERENCES

1. Hasel, K.W., et al. 1991. An endoplasmic reticulum-specific cyclophilin. Mol. Cell. Biol. 11: 3484-3491.
2. Arber, S., et al. 1992. S-cyclophilin is retained intracellularly via a unique COOH-terminal sequence and colocalizes with the calcium storage protein calreticulin. J. Cell Biol. 116: 113-125.
3. Pflugl, G., et al. 1993. X-ray structure of a decameric cyclophilin-cyclosporin crystal complex. Nature 361: 91-94.
4. Le Hir, M., et al. 1995. *In situ* detection of cyclosporin A: evidence for nuclear localization of cyclosporine and cyclophilins. Lab. Invest. 73: 727-733.
5. Mariller, C., et al. 1996. Involvement of the N-terminal part of cyclophilin B in the interaction with specific Jurkat T cell binding sites. Biochem. J. 317: 571-576.
6. Mariller, C., et al. 1996. Evidence that human milk isolated cyclophilin B corresponds to a truncated form. Biochim. Biophys. Acta 1293: 31-38.

CHROMOSOMAL LOCATION

Genetic locus: PPIB (human) mapping to 15q22.31; Ppib (mouse) mapping to 9 C.

SOURCE

CyPB (C-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of CyPB 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-20361 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

CyPB (C-15) is recommended for detection of precursor and mature CyPB 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).

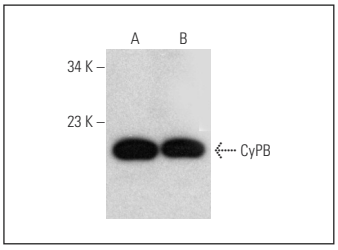
CyPB (C-15) is also recommended for detection of precursor and mature CyPB in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for CyPB siRNA (h): sc-35145, CyPB siRNA (m): sc-35146, CyPB shRNA Plasmid (h): sc-35145-SH, CyPB shRNA Plasmid (m): sc-35146-SH, CyPB shRNA (h) Lentiviral Particles: sc-35145-V and CyPB shRNA (m) Lentiviral Particles: sc-35146-V.

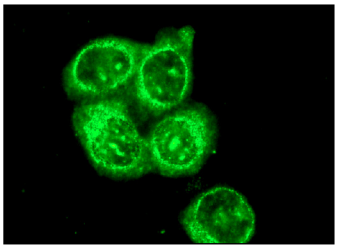
Molecular Weight of CyPB: 24 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200 or A-431 whole cell lysate: sc-2201.

DATA



CyPB (C-15): sc-20361. Western blot analysis of CyPB expression in HeLa (**A**) and A-431 (**B**) whole cell lysates.



CyPB (C-15): sc-20361. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization.

SELECT PRODUCT CITATIONS

1. Stumpf, T., et al. 2008. The human TRPV6 channel protein is associated with cyclophilin B in human placenta. J. Biol. Chem. 283: 18086-18098.
2. Huang, J., et al. 2009. Novel P2 promoter-derived HNF4α isoforms with different N-terminus generated by alternate exon insertion. Exp. Cell Res. 315: 1200-1211.

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.