

CyPB (T-15): sc-31124

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 intracellular protein of 165 amino acids, is the target of the Cyclosporin A 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 G_{αγ} 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

- Hasel, K.W., Glass, J.R., Godbout, M. and Sutcliffe, J.G. 1991. An endoplasmic reticulum-specific cyclophilin. *Mol. Cell. Biol.* 11: 3484-3491.
- Arber, S., Krause, K.H. and Caroni, P. 1992. α -cyclophilin is retained intracellularly via a unique COOH-terminal sequence and colocalizes with the calcium storage protein calreticulin. *J. Cell Biol.* 116: 113-125.
- Pflugl, G., Kallen, J., Schirmer, T., Jansonius, J.N., Zurini, M.G. and Walkinshaw, M.D. 1993. X-ray structure of a decameric cyclophilin-cyclosporin crystal complex. *Nature* 361: 91-94.
- Le Hir, M., Su, Q., Weber, L., Woerly, G., Granelli-Piperno, A. and Ryffel, B. 1995. *In situ* detection of cyclosporin A: evidence for nuclear localization of cyclosporine and cyclophilins. *Lab. Invest.* 73: 727-733.
- Mariller, C., Haendler, B., Allain, F., Denys, A. and Spik, G. 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.
- Mariller, C., Allain, F., Kouach, M. and Spik, G. 1996. Evidence that human milk isolated cyclophilin B corresponds to a truncated form. *Biochim. Biophys. Acta* 1293: 31-38.
- Vajdos, F.F., Yoo, S., Houseweart, M., Sundquist, W.I. and Hill, C.P. 1997. Crystal structure of cyclophilin A complexed with a binding site peptide from the HIV-1 capsid protein. *Protein Sci.* 6: 2297-2307.

CHROMOSOMAL LOCATION

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

SOURCE

CyPB (T-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 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-31124 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

CyPB (T-15) is recommended for detection of precursor and mature cyclophilin B of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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 (T-15) is also recommended for detection of precursor and mature cyclophilin B in additional species, including equine, canine, bovine, porcine and avian.

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.

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) 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.

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.



Try **CyPB (k2E2): sc-130626**, our highly recommended monoclonal alternative to CyPB (T-15).