

CyPB (G-13): sc-31125

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 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 G_{cy} 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., et al. 1991. An endoplasmic reticulum-specific cyclophilin. *Mol. Cell. Biol.* 11: 3484-3491.
- Arber, S., et al. 1992. S-cyclophilin is retained intracellularly via a unique COOH-terminal sequence and co-localizes with the calcium storage protein calreticulin. *J. Cell Biol.* 116: 113-125.
- Pflugl, G., et al. 1993. X-ray structure of a decameric cyclophilin-cyclosporin crystal complex. *Nature* 361: 91-94.
- 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.
- 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.

CHROMOSOMAL LOCATION

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

SOURCE

CyPB (G-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping at 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-31125 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

CyPB (G-13) 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), immunohistochemistry (including paraffin-embedded sections) (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 (G-13) is also recommended for detection of precursor and mature CyPB 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.

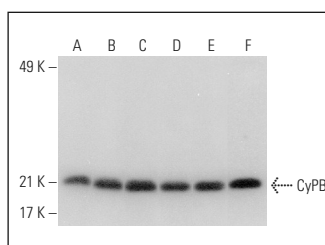
Molecular Weight of CyPB: 24 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, Hep G2 cell lysate: sc-2227 or MCF7 whole cell lysate: sc-2206.

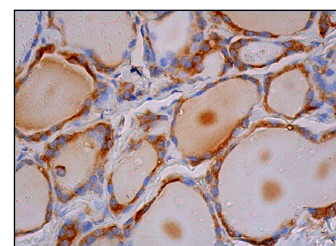
RECOMMENDED SECONDARY REAGENTS

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. 4) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

DATA



CyPB (G-13): sc-31125. Western blot analysis of CyPB expression in THP-1 (A), U-87 MG (B), Hep G2 (C), HeLa (D), MCF7 (E) and A2058 (F) whole cell lysates.



CyPB (G-13): sc-31125. Immunoperoxidase staining of formalin fixed, paraffin-embedded human thyroid gland tissue showing cytoplasmic staining of glandular cells.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.