

# CyP (E-8): sc-390193

## 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<sub>α</sub>γ 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 colocalizes 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. 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

CyP (E-8) is a mouse monoclonal antibody raised against amino acids 1-208 representing full length CyPB of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>2a</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

CyP (E-8) is available conjugated to agarose (sc-390193 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-390193 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-390193 PE), fluorescein (sc-390193 FITC), Alexa Fluor® 488 (sc-390193 AF488), Alexa Fluor® 546 (sc-390193 AF546), Alexa Fluor® 594 (sc-390193 AF594) or Alexa Fluor® 647 (sc-390193 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-390193 AF680) or Alexa Fluor® 790 (sc-390193 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

## APPLICATIONS

CyP (E-8) is recommended for detection of CyPB and CyPC 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), 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).

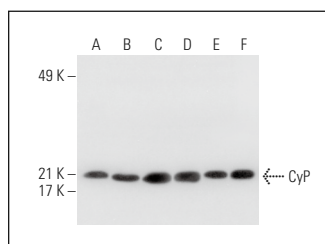
Molecular Weight of CyP: 22 kDa.

Positive Controls: HEK293 whole cell lysate: sc-45136, Hep G2 cell lysate: sc-2227 or THP-1 cell lysate: sc-2238.

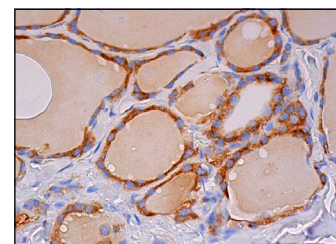
## RECOMMENDED SUPPORT REAGENTS

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. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

## DATA



CyP (E-8): sc-390193. Western blot analysis of CyP expression in THP-1 (A), U-87 MG (B), Hep G2 (C), MCF7 (D), HEK293 (E) and A2058 (F) whole cell lysates.



CyP (E-8): sc-390193. 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.

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.

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