

CyPA (6-YD13): sc-134310

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_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.

CHROMOSOMAL LOCATION

Genetic locus: PPIA (human) mapping to 7p13; Ppia (mouse) mapping to 11 A1.

SOURCE

CyPA (6-YD13) is a mouse monoclonal antibody raised against a full length recombinant CyPA protein of human origin.

PRODUCT

Each vial contains 100 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

CyPA (6-YD13) is recommended for detection of CyPA 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)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for CyPA siRNA (h): sc-105263, CyPA siRNA (m): sc-142741, CyPA shRNA Plasmid (h): sc-105263-SH, CyPA shRNA Plasmid (m): sc-142741-SH, CyPA shRNA (h) Lentiviral Particles: sc-105263-V and CyPA shRNA (m) Lentiviral Particles: sc-142741-V.

Molecular Weight of CyPA: 18 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, A-431 whole cell lysate: sc-2201 or HeLa whole cell lysate: sc-2200.

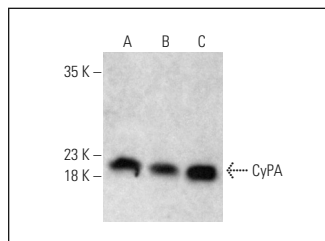
RECOMMENDED SUPPORT REAGENTS

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).

STORAGE

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

DATA



CyPA (6-YD13): sc-134310. Western blot analysis of CyPA expression in Jurkat (A), A-431 (B) and HeLa (C) whole cell lysates.

SELECT PRODUCT CITATIONS

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- Petrillo, C., et al. 2018. Cyclosporine H overcomes innate immune restrictions to improve lentiviral transduction and gene editing in human hematopoietic stem cells. *Cell Stem Cell* 23: 820-832.e9.
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RESEARCH USE

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