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 Gαγ 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

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 recombinant CyPA protein of human origin.

PRODUCT
Each vial contains 100 µg IgG2a kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

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

PROTOCOLS
See our web site at www.scbt.com for detailed protocols and support products.

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, 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).

DATA

SELECT PRODUCT CITATIONS
3. Wei, W., Guo, H., Ma, M., Markham, R., Yu, X.F. 2016. Accumulation of MxB/Mx2-resistant HIV-1 capsid variants during expansion of the HIV-1 epidemic in human populations. EBioMedicine 8: 230-236.

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