

# Cyclophilin F (S-14): sc-82573

## BACKGROUND

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 Cyclosporin A (CsA) and is encoded by a single unique gene conserved between yeast to humans. Cyclophilin B (CyPB) is secreted in biological fluids such as blood or milk, and binds to a specific receptor present on human peripheral blood lymphocytes and expressed in Jurkat cells, a line of human lymphoblasts. Cyclophilin D (CyPD) is a widely expressed cytoplasmic protein that catalyzes the *cis-trans* isomerization of proline imidic peptide bonds in oligopeptides. Cyclophilin F (CyPF), is also known as PPIF, Cyp-D or Rotamase F, is a 207 amino acid mitochondrial matrix protein involved in the induction of necrotic and apoptotic cell death through the activation of the mitochondrial permeability transition (mPT) pore.

## REFERENCES

1. Bowles, K.R., et al. 1999. Genomic characterization of the human peptidyl-prolyl-*cis-trans*-isomerase, mitochondrial precursor gene: assessment of its role in familial dilated cardiomyopathy. *Hum. Genet.* 105: 582-586.
2. Basso, E., et al. 2005. Properties of the permeability transition pore in mitochondria devoid of Cyclophilin D. *J. Biol. Chem.* 280: 18558-18561.
3. Baines, C.P., et al. 2005. Loss of Cyclophilin D reveals a critical role for mitochondrial permeability transition in cell death. *Nature* 434: 658-662.
4. Hu, P., et al. 2007. Ontogeny of RDH9 (Crad3) expression: ablation causes changes in retinoid and steroid metabolizing enzymes, but RXR and androgen signaling seem normal. *Biochim. Biophys. Acta* 1770: 694-705.
5. Naga, K.K., et al. 2007. High Cyclophilin D content of synaptic mitochondria results in increased vulnerability to permeability transition. *J. Neurosci.* 27: 7469-7475.

## CHROMOSOMAL LOCATION

Genetic locus: PPIF (human) mapping to 10q22.3.

## SOURCE

Cyclophilin F (S-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of Cyclophilin F 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-82573 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## STORAGE

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

## APPLICATIONS

Cyclophilin F (S-14) is recommended for detection of Cyclophilin F of 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); non cross-reactive with other Cyclophilin family members.

Suitable for use as control antibody for Cyclophilin F siRNA (h): sc-77071, Cyclophilin F shRNA Plasmid (h): sc-77071-SH and Cyclophilin F shRNA (h) Lentiviral Particles: sc-77071-V.

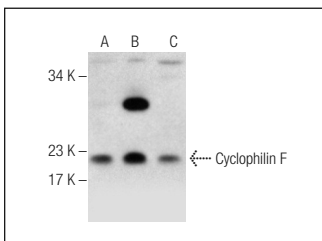
Molecular Weight of Cyclophilin F: 18 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, K-562 whole cell lysate: sc-2203 or Caco-2 cell lysate: sc-2262.

## 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.

## DATA



Cyclophilin F (S-14): sc-82573. Western blot analysis of Cyclophilin F expression in HeLa (A), K-562 (B) and Caco-2 (C) whole cell lysates.

## RESEARCH USE

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

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Try **Cyclophilin F (G-9): sc-376061**, our highly recommended monoclonal alternative to Cyclophilin F (S-14).