

# Cyclophilin E (9E18): sc-100700

## 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. Cyclophilin E, also known as CyPE, Cyclophilin 33, CyP33, PPlase E or Rotamase E, is a ubiquitously expressed nuclear RNA-binding cyclophilin. It contains an N-terminal RNA binding domain (RRM) and a C-terminal cyclophilin domain. Cyclophilin E specifically binds to mRNA and, in accordance with this binding, the PPlase activity of Cyclophilin E is stimulated. In addition, Cyclophilin E can bind to the third PHD zinc finger domain of MLL (myeloid/lymphoid or mixed-lineage leukemia protein) and modify the effects of MLL on target genes. More specifically, the overexpression of Cyclophilin E is known to negatively regulate/inhibit the transcription of HoxC8 and HoxC9 genes. This inhibition occurs via the ability of Cyclophilin E to increase HDAC1 binding to the repression domain of MLL.

## REFERENCES

1. Skrzynny, M., et al. 2001. Cyclophilins of a novel subfamily interact with SNW/SKIP coregulator in *Dictyostelium discoideum* and *Schizosaccharomyces pombe*. *Biochim. Biophys. Acta* 1521: 146-151.
2. Fair, K., et al. 2001. Protein interactions of the MLL PHD fingers modulate MLL target gene regulation in human cells. *Mol. Cell. Biol.* 21: 3589-3597.
3. Anderson, M., et al. 2002. A new family of cyclophilins with an RNA recognition motif that interact with members of the Trx/MLL protein family in *Drosophila* and human cells. *Dev. Genes Evol.* 212: 107-113.
4. Xia, Z.B., et al. 2003. MLL repression domain interacts with histone deacetylases, the polycomb group proteins HPC2 and BMI-1, and the corepressor C-terminal-binding protein. *Proc. Natl. Acad. Sci. USA* 100: 8342-8347.
5. Laidlaw, A.M., et al. 2006. Extent of over-expression of hepatocyte growth factor receptor in colorectal tumours is dependent on the choice of normaliser. *Biochem. Biophys. Res. Commun.* 341: 1017-1021.
6. Khan, S.G., et al. 2006. Reduced XPC DNA repair gene mRNA levels in clinically normal parents of Xeroderma pigmentosum patients. *Carcinogenesis* 27: 84-94.

## CHROMOSOMAL LOCATION

Genetic locus: PPIE (human) mapping to 1p34.2; Ppie (mouse) mapping to 4 D2.2.

## SOURCE

Cyclophilin E (9E18) is a mouse monoclonal antibody raised against recombinant Cyclophilin E of human origin.

## PRODUCT

Each vial contains 100 µg IgG<sub>2a</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## RESEARCH USE

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

## APPLICATIONS

Cyclophilin E (9E18) is recommended for detection of Cyclophilin E 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for Cyclophilin E siRNA (h): sc-77069, Cyclophilin E siRNA (m): sc-77070, Cyclophilin E shRNA Plasmid (h): sc-77069-SH, Cyclophilin E shRNA Plasmid (m): sc-77070-SH, Cyclophilin E shRNA (h) Lentiviral Particles: sc-77069-V and Cyclophilin E shRNA (m) Lentiviral Particles: sc-77070-V.

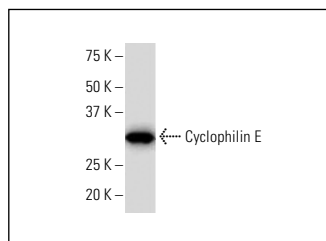
Molecular Weight of Cyclophilin E: 33 kDa.

Positive Controls: HeLa nuclear extract: sc-2120.

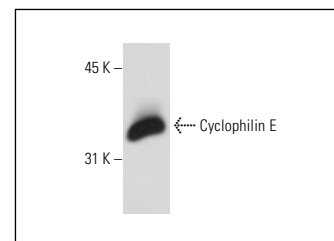
## RECOMMENDED SUPPORT REAGENTS

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.

## DATA



Cyclophilin E (9E18): sc-100700. Western blot analysis of Cyclophilin E expression in HeLa nuclear extract.



Cyclophilin E (9E18): sc-100700. Western blot analysis of Cyclophilin E expression in 293T whole cell lysate.

## SELECT PRODUCT CITATIONS

1. Guo, C.J., et al. 2020. Distinct processing of incRNAs contributes to non-conserved functions in stem cells. *Cell* 181: 621-636.e22.
2. Piao, M., et al. 2023. Cyclophilin E (CypE) functions as a positive regulator in osteoblast differentiation by regulating the transcriptional activity of Runx2. *Cells* 12: 2549.

## STORAGE

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