

prefoldin 5 (E-9): sc-166812

BACKGROUND

Molecular chaperones are proteins that assist in the correct folding of other proteins in the crowded molecular environment that exists in living cells. Within this class of proteins, a key role is played by chaperonins, multi-subunit toroidal (i.e. doughnut-shaped) assemblies that undergo major ATP-dependent conformational changes as part of the mechanism of facilitated folding. Prefoldin is a heterohexameric chaperone protein which has the ability to capture unfolded Actin. Six prefoldin polypeptides, prefoldin 1-6, have been identified. Prefoldin 1 is a 122 amino acid protein that binds specifically to cytosolic chaperonin (c-cpn) and transfers target proteins to it. Prefoldin 3 (VBP1 or VHL binding protein-1) forms complexes with VHL and is translocated from perinuclear granules to the nucleus or cytoplasm. Prefoldin 4 is a possible transcription factor. Prefoldin 5 (c-Myc-binding protein Mm-1, Myc modulator 1 or MM-1) is a c-Myc binding protein.

REFERENCES

1. Tsuchiya, H., et al. 1996. Identification of a novel protein (VBP-1) binding to the von Hippel-Lindau (VHL) tumor suppressor gene product. *Cancer Res.* 56: 2881-2885.
2. Brinke, A., et al. 1997. Characterization of the gene (VBP1) and transcript for the von Hippel-Lindau binding protein and isolation of the highly conserved murine homologue. *Genomics* 45: 105-112.
3. Mori, K., et al. 1998. MM-1, a novel c-Myc-associating protein that represses transcriptional activity of c-Myc. *J. Biol. Chem.* 273: 29794-29800.
4. Vainberg, I.E., et al. 1998. Prefoldin, a chaperone that delivers unfolded proteins to cytosolic chaperonin. *Cell* 93: 863-873.
5. Fujioka, Y., et al. 2001. MM-1, a c-Myc-binding protein, is a candidate for a tumor suppressor in leukemia/lymphoma and tongue cancer. *J. Biol. Chem.* 276: 45137-45144.

CHROMOSOMAL LOCATION

Genetic locus: PFDN5 (human) mapping to 12q13.13; Pfdn5 (mouse) mapping to 15 F3.

SOURCE

prefoldin 5 (E-9) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 45-80 within an internal region of prefoldin 5 of human origin.

PRODUCT

Each vial contains 200 µg IgM kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-166812 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

STORAGE

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

APPLICATIONS

prefoldin 5 (E-9) is recommended for detection of prefoldin 5 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).

prefoldin 5 (E-9) is also recommended for detection of prefoldin 5 in additional species, including porcine.

Suitable for use as control antibody for prefoldin 5 siRNA (h): sc-40876, prefoldin 5 siRNA (m): sc-40877, prefoldin 5 shRNA Plasmid (h): sc-40876-SH, prefoldin 5 shRNA Plasmid (m): sc-40877-SH, prefoldin 5 shRNA (h) Lentiviral Particles: sc-40876-V and prefoldin 5 shRNA (m) Lentiviral Particles: sc-40877-V.

Molecular Weight (predicted) of prefoldin 5: 17 kDa.

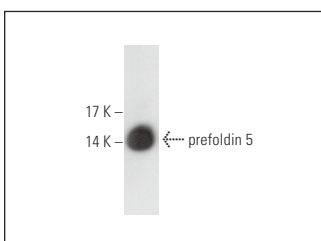
Molecular Weight (observed) of prefoldin 5: 15/21 kDa.

Positive Controls: HeLa nuclear extract: sc-2120 or NIH/3T3 nuclear extract: sc-2138.

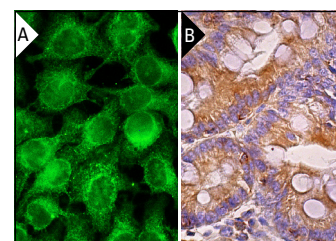
RECOMMENDED SUPPORT REAGENTS

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 L-Agarose: sc-2336 (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 Immunohisto-mount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



prefoldin 5 (E-9): sc-166812. Western blot analysis of prefoldin 5 expression in NIH/3T3 nuclear extract.



prefoldin 5 (E-9): sc-166812. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoskeletal and nuclear localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human small intestine tissue showing cytoplasmic staining of glandular cells (B).

RESEARCH USE

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