SANTA CRUZ BIOTECHNOLOGY, INC.

prefoldin 5 (E-9): sc-166812

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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.

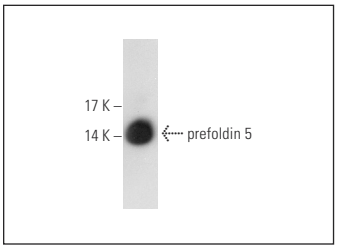
Suitable for use as control antibody for prefoldin 5 siRNA (h): sc-40876, prefoldin 5 siRNA (m): sc-40877, prefoldin 5 shRNA Plasmid (h): sc-40876-SH, prefoldin 5 shRNA Plasmid (m): sc-40877-SH, prefoldin 5 shRNA (h) Lentiviral Particles: sc-40876-V and prefoldin 5 shRNA (m) Lentiviral Particles: sc-40877-V.

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

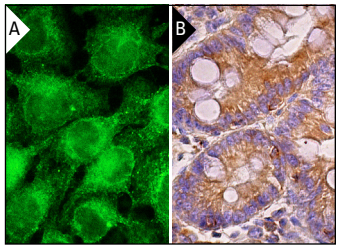
Molecular Weight (observed) of prefoldin 5: 15/21 kDa.

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

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.

PROTOCOLS

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