

OS-9 (D-17): sc-168853

BACKGROUND

OS-9 is a 667 amino acid endoplasmic reticulum protein that contains one PRKCSH domain and is expressed as three isoforms, designated OS-9-1, OS-9-2 and OS-9-3. Expressed ubiquitously in normal tissue and at high levels in osteosarcomas, OS-9 functions to bind HIF-1 α (hypoxia-inducible factor 1, α), a protein that plays an important role in angiogenesis (the development of blood vessels) and in the hypoxic response. Through its interaction with HIF-1 α , OS-9 promotes the oxygen-dependent degradation of HIF-1 α , thereby affecting the HIF-1 α -mediated regulation of blood vessel growth and contributing to tumorigenesis. Additionally, OS-9 is thought to play a role in the ER-associated degradation (ERAD) of misfolded glycoproteins, assisting in the transport and polyubiquitination of damaged peptides.

REFERENCES

1. Su, Y.A., Hutter, C.M., Trent, J.M. and Meltzer, P.S. 1996. Complete sequence analysis of a gene (OS-9) ubiquitously expressed in human tissues and amplified in sarcomas. *Mol. Carcinog.* 15: 270-275.
2. Kimura, Y., Nakazawa, M., Tsuchiya, N., Asakawa, S., Shimizu, N. and Yamada, M. 1997. Genomic organization of the OS-9 gene amplified in human sarcomas. *J. Biochem.* 122: 1190-1195.
3. Nakayama, T., Yaoi, T., Kuwajima, G., Yoshie, O. and Sakata, T. 1999. Ca²⁺-dependent interaction of N-copine, a member of the two C2 domain protein family, with OS-9, the product of a gene frequently amplified in osteosarcoma. *FEBS Lett.* 453: 77-80.
4. Vigneron, N., Ooms, A., Morel, S., Degiovanni, G. and Van Den Eynde, B.J. 2002. Identification of a new peptide recognized by autologous cytolytic T lymphocytes on a human melanoma. *Cancer Immun.* 2: 9.
5. Litovchick, L., Friedmann, E. and Shaltiel, S. 2002. A selective interaction between OS-9 and the carboxyl-terminal tail of Meprin β . *J. Biol. Chem.* 277: 34413-34423.
6. Baek, J.H., Mahon, P.C., Oh, J., Kelly, B., Krishnamachary, B., Pearson, M., Chan, D.A., Giaccia, A.J. and Semenza, G.L. 2005. OS-9 interacts with hypoxia-inducible factor 1 α and prolyl hydroxylases to promote oxygen-dependent degradation of HIF-1 α . *Mol. Cell* 17: 503-512.
7. Wang, Y., Fu, X., Gaiser, S., Kottgen, M., Kramer-Zucker, A., Walz, G. and Wegierski, T. 2007. OS-9 regulates the transit and polyubiquitination of TRPV4 in the endoplasmic reticulum. *J. Biol. Chem.* 282: 36561-36570.
8. Bernasconi, R., Pertel, T., Luban, J. and Molinari, M. 2008. A dual task for the Xbp1-responsive OS-9 variants in the mammalian endoplasmic reticulum: inhibiting secretion of misfolded protein conformers and enhancing their disposal. *J. Biol. Chem.* 283: 16446-16454.
9. Christianson, J.C., Shaler, T.A., Tyler, R.E. and Kopito, R.R. 2008. OS-9 and GRP94 deliver mutant α 1-antitrypsin to the Hrd1-SEL1L ubiquitin ligase complex for ERAD. *Nat. Cell Biol.* 10: 272-282.

CHROMOSOMAL LOCATION

Genetic locus: OS9 (human) mapping to 12q13.3; Os9 (mouse) mapping to 10 D3.

SOURCE

OS-9 (D-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of OS-9 of human origin.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-168853 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

OS-9 (D-17) is recommended for detection of OS-9 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

OS-9 (D-17) is also recommended for detection of OS-9 in additional species, including equine, canine and bovine.

Suitable for use as control antibody for OS-9 siRNA (h): sc-96230, OS-9 siRNA (m): sc-151325, OS-9 shRNA Plasmid (h): sc-96230-SH, OS-9 shRNA Plasmid (m): sc-151325-SH, OS-9 shRNA (h) Lentiviral Particles: sc-96230-V and OS-9 shRNA (m) Lentiviral Particles: sc-151325-V.

Molecular Weight of OS-9: 88 kDa.

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) 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.

STORAGE

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

RESEARCH USE

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

PROTOCOLS

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