

PPPDE1 (C-13): sc-240404

BACKGROUND

PPPDE1 (PPPDE peptidase domain containing 1), also known as FAM152A (family with sequence similarity 152, member A), is a 194 amino acid protein that contains one PPPDE peptidase domain and belongs to the UPF0326 family. Highly conserved, human PPPDE1 shares 96% identity with its mouse orthologue and likely plays a role in the apoptotic response to DNA damage. Existing as two alternatively spliced isoforms, PPPDE1 localizes to Golgi complex and is ubiquitously expressed, with highest expression levels in skeletal muscle, lymph and liver. Down-regulation of PPPDE1 during early embryogenesis potentially results in an increase of muscle fiber numbers. PPPDE1 is also linked to fat traits, and is a potential genetic marker for molecular-assisted selection in animal breeding. Overexpression of PPPDE1 promotes apoptotic death in lung, colon and ovarian cancer cells, making PPPDE1 a candidate for multiple cancer therapies. The gene that encodes PPPDE1 maps to human chromosome 1q44.

REFERENCES

- Mo, D., Zhu, Z., te Pas, M.F., Li, X., Yang, S., Wang, H., Wang, H. and Li, K. 2008. Characterization, expression profiles, intracellular distribution and association analysis of porcine PNAS-4 gene with production traits. *BMC Genet.* 9: 40.
- Zhang, P., Wang, C.T., Yan, F., Gou, L., Tong, A.P., Cai, F., Li, Q., Deng, H.X. and Wei, Y.Q. 2008. Prokaryotic expression of a novel mouse pro-apoptosis protein PNAS-4 and application of its polyclonal antibodies. *Braz. J. Med. Biol. Res.* 41: 504-511.
- Yang, F., Li, Z., Deng, H., Yang, H., Yan, F., Qian, Z., Chen, L., Wei, Y. and Zhao, X. 2008. Efficient inhibition of ovarian cancer growth and prolonged survival by transfection with a novel pro-apoptotic gene, hPNAS-4, in a mouse model. *In vivo and in vitro* results. *Oncology* 75: 137-144.
- Yuan, Z., Yan, F., Wang, Y.S., Liu, H.Y., Gou, L.T., Zhao, X.Y., Lai, S.T., Deng, H.X., Li, J., Ding, Z.Y., Xiong, S.Q., Kan, B., Mao, Y.Q., Chen, L.J., Wei, Y.Q. and Zhao, X. 2009. PNAS-4, a novel pro-apoptotic gene, can potentiate antineoplastic effects of cisplatin. *Cancer Chemother. Pharmacol.* 65: 13-25.
- Yuan, Z., Liu, H., Yan, F., Wang, Y., Gou, L., Nie, C., Ding, Z., Lai, S., Zhao, Y., Zhao, X., Li, J., Deng, H., Mao, Y., Chen, L., Wei, Y. and Zhao, X. 2009. Improved therapeutic efficacy against murine carcinoma by combining honokiol with gene therapy of PNAS-4, a novel pro-apoptotic gene. *Cancer Sci.* 100: 1757-1766.
- Hou, S., Zhao, Z., Yan, F., Chen, X., Deng, H., Chen, X., Wang, Y. and Wei, Y. 2009. Genetic transfer of PNAS-4 induces apoptosis and enhances sensitivity to gemcitabine in lung cancer. *Cell Biol. Int.* 33: 276-282.
- Alison, M.R., Lebrenne, A.C. and Islam, S. 2009. Stem cells and lung cancer: future therapeutic targets? *Expert Opin. Biol. Ther.* 9: 1127-1141.

CHROMOSOMAL LOCATION

Genetic locus: DESI2 (human) mapping to 1q44; Pppde1 (mouse) mapping to 1 H4.

SOURCE

PPPDE1 (C-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of PPPDE1 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-240404 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

PPPDE1 (C-13) is recommended for detection of PPPDE1 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).

PPPDE1 (C-13) is also recommended for detection of PPPDE1 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for FAM152A siRNA (h): sc-88491, FAM152A siRNA (m): sc-140404, FAM152A shRNA Plasmid (h): sc-88491-SH, FAM152A shRNA Plasmid (m): sc-140404-SH, FAM152A shRNA (h) Lentiviral Particles: sc-88491-V and FAM152A shRNA (m) Lentiviral Particles: sc-140404-V.

Molecular Weight of PPPDE1: 21 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.