

DUSP13 (S-13): sc-104914

BACKGROUND

Mitogen-activated protein (MAP) kinases are a large class of proteins involved in signal transduction pathways, which are activated by a range of stimuli and mediate a number of physiological and pathological changes in the cell. Dual specificity phosphatases (DUSPs) are a subclass of the protein tyrosine phosphatase (PTP) gene superfamily, which are selective for dephosphorylating critical phosphothreonine and phosphotyrosine residues within MAP kinases. DUSP gene expression is induced by a host of growth factors and/or cellular stresses, thereby negatively regulating MAP kinase superfamily members including MAPK/ERK, SAPK/JNK and p38. DUSP13, also designated TMDP or SKRP4, is abundantly expressed in testis with lower expression in skeletal muscle. DUSP13 is thought to be involved in the regulation of meiosis and/or differentiation of testicular germ cells during spermatogenesis.

REFERENCES

1. Keyse, S.M. 1995. An emerging family of dual specificity MAP kinase phosphatases. *Biochim. Biophys. Acta* 1265: 152-160.
2. Martell, K.J., Seasholtz, A.F., Kwak, S.P., Clemens, K.K. and Dixon, J.E. 1995. hVH-5: a protein tyrosine phosphatase abundant in brain that inactivates mitogen-act protein kinase. *J. Neurochem.* 65: 1823-1833.
3. Sun, H. 1998. Functional studies of dual-specificity phosphatases. *Methods Mol. Biol.* 84: 307-318.
4. Nakamura, K., Shima, H., Watanabe, M., Haneji, T. and Kikuchi, K. 1999. Molecular cloning and characterization of a novel dual-specificity protein phosphatase possibly involved in spermatogenesis. *Biochem. J.* 344: 819-825.
5. Camps, M., Nichols, A. and Arkinstall, S. 2000. Dual specificity phosphatases: a gene family for control of MAP kinase function. *FASEB J.* 14: 6-16.
6. Chen, H.H., Luche, R., Wei, B. and Tonks, N.K. 2004. Characterization of two distinct dual specificity phosphatases encoded in alternative open reading frames of a single gene located on human chromosome 10q22.2. *J. Biol. Chem.* 279: 41404-41413.

CHROMOSOMAL LOCATION

Genetic locus: DUSP13 (human) mapping to 10q22.2; *Dusp13* (mouse) mapping to 14 A3.

SOURCE

DUSP13 (S-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of DUSP13 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-104914 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

DUSP13 (S-13) is recommended for detection of DUSP13 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); non cross-reactive with other DUSP family members.

DUSP13 (S-13) is also recommended for detection of DUSP13 in additional species, including bovine and porcine.

Suitable for use as control antibody for DUSP13 siRNA (h): sc-90507, DUSP13 siRNA (m): sc-143195, DUSP13 shRNA Plasmid (h): sc-90507-SH, DUSP13 shRNA Plasmid (m): sc-143195-SH, DUSP13 shRNA (h) Lentiviral Particles: sc-90507-V and DUSP13 shRNA (m) Lentiviral Particles: sc-143195-V.

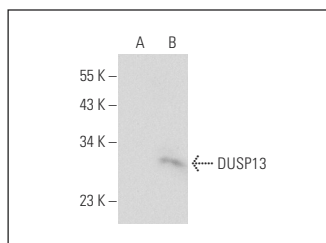
Molecular Weight of DUSP13 isoforms: 22/32/36/28/21 kDa.

Positive Controls: DUSP13 (h3): 293T Lysate: sc-158459.

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

DATA



DUSP13 (S-13): sc-104914. Western blot analysis of DUSP13 expression in non-transfected: sc-117752 (A) and human DUSP13 transfected: sc-158459 (B) 293T whole cell lysates.

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.