SANTA CRUZ BIOTECHNOLOGY, INC.

DUSP24 (N-14): sc-104229

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. DUSP24, also designated MK-STYX, is likely a psuedophosphatase that is catalytically inactive. However, DUSP24 is consistently expressed in Ewing's sarcoma family tumors (ESFT) and may be a potential therapeutic target in that disease.

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. 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.
5. Siligan, C., Ban, J., Bachmaier, R., Spahn, L., Kreppel, M., Schaefer, K.L., Poremba, C., Aryee, D.N. and Kovar, H. 2005. EWS-FLI1 target genes recovered from Ewing's sarcoma chromatin. Oncogene 24: 2512-2524.
6. Patterson, K.I., Brummer, T., O'Brien, P.M. and Daly, R.J. 2009. Dual-specificity phosphatases: critical regulators with diverse cellular targets. Biochem. J. 418: 475-489.

CHROMOSOMAL LOCATION

Genetic locus: STYXL1 (human) mapping to 7q11.23.

SOURCE

DUSP24 (N-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of DUSP24 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-104229 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

DUSP24 (N-14) is recommended for detection of DUSP24 of human and rat 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); non cross-reactive with other DUSP family members .

Suitable for use as control antibody for DUSP24 siRNA (h): sc-89370, DUSP24 shRNA Plasmid (h): sc-89370-SH and DUSP24 shRNA (h) Lentiviral Particles: sc-89370-V.

Molecular Weight of DUSP24: 36/28/24/12 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.

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.