SANTA CRUZ BIOTECHNOLOGY, INC.

DUSP5 (H-74): sc-99032

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The Power to Question

BACKGROUND

Dual specificity phosphatases (DSPs) are a subclass of the protein tyrosine phosphatase (PTP) gene superfamily, which are selective for dephosphorylating critical phosphothreonine and phosphotyrosine residues within MAP kinases. DSP 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. The members of the dual-specificity phosphatase protein family include MKP-1/CL100 (3CH134), MKP-2, MKP-3, MKP-4, MKP-5, MKP-6, MKP-7, MKP-X, VHR, VHY, PAC1, hVH-3 (B23), hVH-5, PYST2, DUSP1, DUSP5, DUSP8, PIR1 and SKRP1. DUSP5 is a nuclear phosphoprotein that displays phosphatase activity toward several different substrates. It shows the highest relative activity toward ERK1.

REFERENCES

1. Ishibashi, T., et al. 1994. A novel dual specificity phosphatase induced by serum stimulation and heat shock. J. Biol. Chem. 269: 29897-29902.
2. Kwak, S.P. and Dixon, J.E. 1995. Multiple dual specificity protein tyrosine phosphatases are expressed and regulated differentially in liver cell lines. J. Biol. Chem. 270: 1156-1160.
3. Cahir-McFarland, E.D., et al. 2004. Role of NFκB in cell survival and transcription of latent membrane protein 1-expressing or Epstein-Barr virus latency III-infected cells. J. Virol. 78: 4108-4119.
4. Tullai, J.W., et al. 2004. Identification of transcription factor binding sites upstream of human genes regulated by the phosphatidylinositol 3-kinase and MEK/ERK signaling pathways. J. Biol. Chem. 279: 20167-20177.
5. Sumanas, S., et al. 2005. Identification of novel vascular endothelial-specific genes by the microarray analysis of the zebrafish cloche mutants. Blood 106: 534-541.

CHROMOSOMAL LOCATION

Genetic locus: DUSP5 (human) mapping to 10q25.2; Dusp5 (mouse) mapping to 19 D2.

SOURCE

DUSP5 (H-74) is a rabbit polyclonal antibody raised against amino acids 311-384 mapping at the C-terminus of DUSP5 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.

STORAGE

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

PROTOCOLS

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

APPLICATIONS

DUSP5 (H-74) is recommended for detection of DUSP5 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).

DUSP5 (H-74) is also recommended for detection of DUSP5 in additional species, including equine, canine and porcine.

Suitable for use as control antibody for DUSP5 siRNA (h): sc-60554, DUSP5 siRNA (m): sc-60555, DUSP5 shRNA Plasmid (h): sc-60554-SH, DUSP5 shRNA Plasmid (m): sc-60555-SH, DUSP5 shRNA (h) Lentiviral Particles: sc-60554 and DUSP5 shRNA (m) Lentiviral Particles: sc-60555-V.

Molecular Weight (predicted) of DUSP5: 42 kDa.

Molecular Weight (observed) of DUSP5: 35-44 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

SELECT PRODUCT CITATIONS

1. Chen, Q., et al. 2011. Effect of dual-specificity protein phosphatase 5 on pluripotency maintenance and differentiation of mouse embryonic stem cells. J. Cell. Biochem. 112: 3185-3193.

RESEARCH USE

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