

# DUSP5 (H-9): sc-393801

## 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.

## CHROMOSOMAL LOCATION

Genetic locus: DUSP5 (human) mapping to 10q25.2.

## SOURCE

DUSP5 (H-9) is a mouse monoclonal antibody raised against amino acids 311-384 mapping at the C-terminus of DUSP5 of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>2a</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

DUSP5 (H-9) is available conjugated to agarose (sc-393801 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-393801 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-393801 PE), fluorescein (sc-393801 FITC), Alexa Fluor<sup>®</sup> 488 (sc-393801 AF488), Alexa Fluor<sup>®</sup> 546 (sc-393801 AF546), Alexa Fluor<sup>®</sup> 594 (sc-393801 AF594) or Alexa Fluor<sup>®</sup> 647 (sc-393801 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor<sup>®</sup> 680 (sc-393801 AF680) or Alexa Fluor<sup>®</sup> 790 (sc-393801 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

## APPLICATIONS

DUSP5 (H-9) is recommended for detection of DUSP5 of human origin by Western Blotting (starting dilution 1:100, 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).

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

Molecular Weight (predicted) of DUSP5: 42 kDa.

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

Positive Controls: MDA-MB-231 cell lysate: sc-2232, K-562 whole cell lysate: sc-2203 or HCT-116 whole cell lysate: sc-364175.

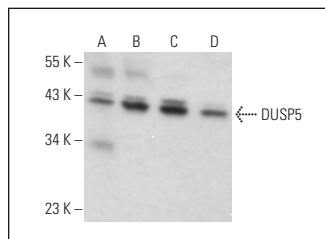
## RESEARCH USE

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

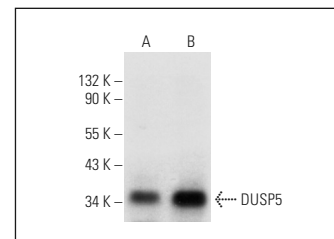
## STORAGE

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

## DATA



DUSP5 (H-9): sc-393801. Western blot analysis of DUSP5 expression in HCT-116 (A), HL-60 (B), K-562 (C) and COLO 205 (D) whole cell lysates.



DUSP5 (H-9): sc-393801. Western blot analysis of DUSP5 expression in MDA-MB-231 (A) and HCT-116 (B) whole cell lysates.

## SELECT PRODUCT CITATIONS

- Yang, W., et al. 2017. Exploring the mechanism of WWOX growth inhibitory effects on oral squamous cell carcinoma. *Oncol. Lett.* 13: 3198-3204.
- Tögel, L., et al. 2018. DUSP5 is methylated in CIMP-high colorectal cancer but is not a major regulator of intestinal cell proliferation and tumorigenesis. *Sci. Rep.* 8: 1767.
- Alleboina, S., et al. 2019. Dual specificity phosphatase 5 regulates perfusion recovery in experimental peripheral artery disease. *Vasc. Med.* 24: 395-404.
- Relav, L., et al. 2021. Dual-specificity phosphatase 6 (DUSP6) mRNA and protein abundance is regulated by fibroblast growth factor 2 in sheep granulosa cells and inhibits c-Jun N-terminal kinase (MAPK8) phosphorylation. *Mol. Cell. Endocrinol.* 531: 111297.
- Liu, X., et al. 2021. DUSP5 promotes osteogenic differentiation through SCP1/2-dependent phosphorylation of SMAD1. *Stem Cells* 39: 1395-1409.
- Benedetti, R., et al. 2021. Role of UPR sensor activation in cell death-survival decision of colon cancer cells stressed by DPE treatment. *Biomedicines* 9: 1262.
- Gonnella, R., et al. 2022. Zinc supplementation enhances the pro-death function of UPR in lymphoma cells exposed to radiation. *Biology* 11: 132.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.

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