SANTA CRUZ BIOTECHNOLOGY, INC.

DUSP12 (H-11): sc-390760

SANTA CRUZ BIOTECHNOLOGY

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. DUSP12 (dual specificity phosphatase 12), also known as YVH1, is a 340 amino acid protein that localizes to the nucleus and contains one tyrosine-protein phosphatase domain. Expressed ubiquitously with highest expression in ovary, testis, spleen and blood leukocytes, DUSP12 uses zinc as a cofactor to catalyze the conversion of a protein tyrosine phosphate to a protein tyrosine and a free phosphate, possibly playing a role in cellular proliferation and differentiation.

REFERENCES

1. 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.
2. Groom, L.A., et al. 1996. Differential regulation of the MAP, SAP and RK/p38 kinases by Pyst1, a novel cytosolic dual-specificity phosphatase. EMBO J. 15: 3621-3632.
3. Muda, M., et al. 1999. Identification of the human YVH1 protein-tyrosine phosphatase orthologue reveals a novel zinc binding domain essential for *in vivo* function. J. Biol. Chem. 274: 23991-23995.
4. Online Mendelian Inheritance in Man, OMIM™. 2000. Johns Hopkins University, Baltimore, MD. MIM Number: 604835. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
5. Das, S.K., et al. 2006. Polymorphisms in the glucokinase-associated, dual-specificity phosphatase 12 (DUSP12) gene under chromosome 1q21 linkage peak are associated with type 2 diabetes. Diabetes 55: 2631-2639.

CHROMOSOMAL LOCATION

Genetic locus: DUSP12 (human) mapping to 1q23.3.

SOURCE

DUSP12 (H-11) is a mouse monoclonal antibody raised against amino acids 254-340 mapping at the C-terminus of DUSP12 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

DUSP12 (H-11) is available conjugated to agarose (sc-390760 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-390760 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-390760 PE), fluorescein (sc-390760 FITC), Alexa Fluor® 488 (sc-390760 AF488), Alexa Fluor® 546 (sc-390760 AF546), Alexa Fluor® 594 (sc-390760 AF594) or Alexa Fluor® 647 (sc-390760 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-390760 AF680) or Alexa Fluor® 790 (sc-390760 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

DUSP12 (H-11) is recommended for detection of DUSP12 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 DUSP12 siRNA (h): sc-77196, DUSP12 shRNA Plasmid (h): sc-77196-SH and DUSP12 shRNA (h) Lentiviral Particles: sc-77196-V.

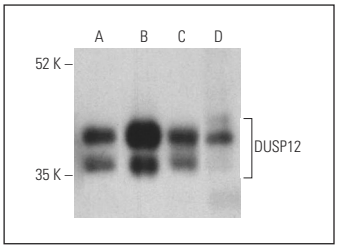
Molecular Weight of DUSP12: 38 kDa.

Positive Controls: HEK293T whole cell lysate: sc-45137, U-251-MG whole cell lysate: sc-364176 or HeLa nuclear extract: sc-2120.

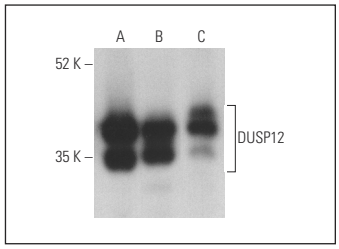
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



DUSP12 (H-11): sc-390760. Western blot analysis of DUSP12 expression in HEK293T (**A**) and U-251-MG (**C**) whole cell lysates, HeLa nuclear extract (**B**) and human tonsil tissue extract (**D**). Detection reagent used: m-IgG Fc BP-HRP: sc-525409.



DUSP12 (H-11): sc-390760. Western blot analysis of DUSP12 expression in HeLa nuclear extract (**A**), U-251-MG whole cell lysate (**B**) and human tonsil tissue extract (**C**). Detection reagent used: m-IgG_1 BP-HRP: sc-525408.

SELECT PRODUCT CITATIONS

1. Monteiro, L.F. and Forti, F.L. 2019. Network analysis of DUSP12 partners in the nucleus under genotoxic stress. J. Proteomics 197: 42-52.

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.