

VHR (F-2): sc-374161

BACKGROUND

Mitogen-activated protein (MAP) kinases are a large class of proteins involved in signal transduction pathways that are activated by a range of stimuli and mediate a number of physiological and pathological changes in the cell. 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), VHR, PAC1, MKP-2, hVH-3 (B23), hVH-5, MKP-3, MKP-X, and MKP-4. Human VHR maps to chromosome 17q21.31 and encodes a 185 amino acid protein that elicits protein-serine and tyrosine phosphatase activity and is expressed in breast and ovarian tissues.

REFERENCES

1. Keyse, S.M. 1995. An emerging family of dual specificity MAP kinase phosphatases. *Biochim. Biophys. Acta* 1265: 152-160.
2. Muda, M., et al. 1997. Molecular cloning and functional characterization of a novel mitogen-activated protein kinase phosphatase, MKP-4. *J. Biol. Chem.* 272: 5141-5151.
3. Sun, H. 1998. Functional studies of dual-specificity phosphatases. *Methods Mol. Biol.* 84: 307-318.

CHROMOSOMAL LOCATION

Genetic locus: DUSP3 (human) mapping to 17q21.31; Dusp3 (mouse) mapping to 11 D.

SOURCE

VHR (F-2) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 2-29 at the N-terminus of VHR of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

VHR (F-2) is available conjugated to agarose (sc-374161 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-374161 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-374161 PE), fluorescein (sc-374161 FITC), Alexa Fluor® 488 (sc-374161 AF488), Alexa Fluor® 546 (sc-374161 AF546), Alexa Fluor® 594 (sc-374161 AF594) or Alexa Fluor® 647 (sc-374161 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-374161 AF680) or Alexa Fluor® 790 (sc-374161 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-374161 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

RESEARCH USE

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

APPLICATIONS

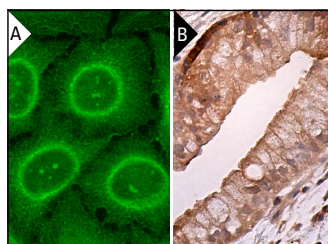
VHR (F-2) is recommended for detection of VHR of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (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 VHR siRNA (h): sc-39006, VHR siRNA (m): sc-155105, VHR shRNA Plasmid (h): sc-39006-SH, VHR shRNA Plasmid (m): sc-155105-SH, VHR shRNA (h) Lentiviral Particles: sc-39006-V and VHR shRNA (m) Lentiviral Particles: sc-155105-V.

Molecular Weight of VHR: 21 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203, A-431 whole cell lysate: sc-2201 or Jurkat whole cell lysate: sc-2204.

DATA



VHR (F-2): sc-374161. Immunofluorescence staining of methanol-fixed HeLa cells showing perinuclear and cytoplasmic localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human gall bladder tissue showing cytoplasmic staining of glandular cells (B).

SELECT PRODUCT CITATIONS

1. Chou, H.C., et al. 2022. DUSP3 regulates phosphorylation-mediated degradation of occludin and is required for maintaining epithelial tight junction. *J. Biomed. Sci.* 29: 40.

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 for detailed protocols and support products.

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