

VHY (F-11): sc-393888

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. VHY-related member Y (VHY) is a member of a subgroup of myristoylated VH1-like small dual specificity phosphatases. It is highly expressed in testis, specifically in pachytene spermatocytes (midstage of meiotic division I) and round spermatids. VHY localizes to the plasma membrane in transfected 293T or NIH/3T3 cells.

REFERENCES

1. Keyse, S.M. 1995. An emerging family of dual specificity MAP kinase phosphatases. *Biochim. Biophys. Acta* 1265: 152-160.
2. Sun, H. 1998. Functional studies of dual-specificity phosphatases. *Methods Mol. Biol.* 84: 307-318.
3. Camps, M., et al. 2000. Dual specificity phosphatases: a gene family for control of MAP kinase function. *FASEB J.* 14: 6-16.
4. Alonso, A., et al. 2004. VHY, a novel myristoylated testis-restricted dual specificity protein phosphatase related to VHX. *J. Biol. Chem.* 279: 32586-32591.
5. Alonso, A., et al. 2004. The minimal essential core of a cysteine-based protein-tyrosine phosphatase revealed by a novel 16 kDa VH1-like phosphatase, VHZ. *J. Biol. Chem.* 279: 35768-35774.
6. Yoon, T.S., et al. 2005. Crystal structure of the catalytic domain of human VHY, a dual-specificity protein phosphatase. *Proteins* 61: 694-697.

CHROMOSOMAL LOCATION

Genetic locus: DUSP15 (human) mapping to 20q11.21; Dusp15 (mouse) mapping to 2 H1.

SOURCE

VHY (F-11) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 10-37 at the N-terminus of VHY of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-393888 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

STORAGE

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

APPLICATIONS

VHY (F-11) is recommended for detection of VHY 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for VHY siRNA (h): sc-61786, VHY siRNA (m): sc-61787, VHY shRNA Plasmid (h): sc-61786-SH, VHY shRNA Plasmid (m): sc-61787-SH, VHY shRNA (h) Lentiviral Particles: sc-61786-V and VHY shRNA (m) Lentiviral Particles: sc-61787-V.

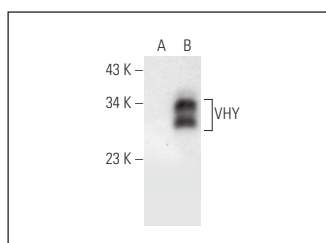
Molecular Weight of VHY: 26 kDa.

Positive Controls: VHY (h): 293T Lysate: sc-116612.

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



VHY (F-11): sc-393888. Western blot analysis of VHY expression in non-transfected: sc-117752 (A) and human VHY transfected: sc-116612 (B) 293T whole cell lysates.

RESEARCH USE

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

PROTOCOLS

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