

MKP-3 (G-11): sc-137245

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 MKP-3 maps to chromosome 12q21.33 and encodes a 381 amino acid protein that specifically inactivates members of the ERK family and is expressed in a variety of tissues with the highest levels in heart and pancreas.

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.

CHROMOSOMAL LOCATION

Genetic locus: DUSP6 (human) mapping to 12q21.33; Dusp6 (mouse) mapping to 10 D1.

SOURCE

MKP-3 (G-11) is a mouse monoclonal antibody raised against amino acids 1-130 mapping at the N-terminus of MKP-3 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.

APPLICATIONS

MKP-3 (G-11) is recommended for detection of MKP-3 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 MKP-3 siRNA (h): sc-39000, MKP-3 siRNA (m): sc-39001, MKP-3 shRNA Plasmid (h): sc-39000-SH, MKP-3 shRNA Plasmid (m): sc-39001-SH, MKP-3 shRNA (h) Lentiviral Particles: sc-39000-V and MKP-3 shRNA (m) Lentiviral Particles: sc-39001-V.

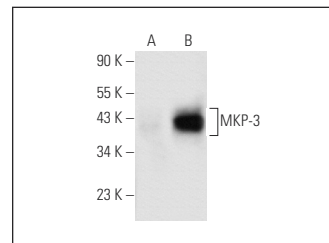
Molecular Weight of MKP-3: 42 kDa.

Positive Controls: MKP-3 (m): 293T Lysate: sc-121681 or MKP-3 (h): 293T Lysate: sc-114251.

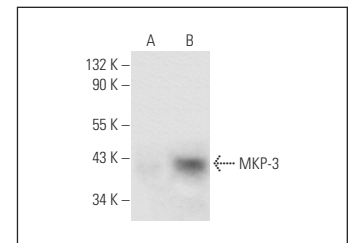
RECOMMENDED SUPPORT REAGENTS

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



MKP-3 (G-11): sc-137245. Western blot analysis of MKP-3 expression in non-transfected: sc-117752 (A) and mouse MKP-3 transfected: sc-121681 (B) 293T whole cell lysates.



MKP-3 (G-11): sc-137245. Western blot analysis of MKP-3 expression in non-transfected: sc-117752 (A) and human MKP-3 transfected: sc-114251 (B) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

1. Yang, W., et al. 2017. Exploring the mechanism of WWOX growth inhibitory effects on oral squamous cell carcinoma. *Oncol. Lett.* 13: 3198-3204.
2. Xie, J.J., et al. 2018. Super-enhancer-driven long non-coding RNA LINC01503, regulated by TP63, is over-expressed and oncogenic in squamous cell carcinoma. *Gastroenterology* 154: 2137-2151.e1.

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.

PROTOCOLS

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



See **MKP-3 (F-12): sc-377070** for MKP-3 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.