

## MKP-6 (Q-15): sc-48041

### BACKGROUND

The deduced 198 amino acid MAP kinase phosphatase 6 (MKP-6), also designated MAP6 and dual-specificity phosphatase 14 (DUSP14), is homologous to other MKP family proteins in that it has a conserved, centrally located, catalytic core, but differs from traditional MKP proteins because it contains unique N- and C-terminal regions. Binding and deletion analyses have established that the interaction between the cytoplasmic tail of CD28 (a T cell antigen) and MKP-6 occurs at Tyr 200 of CD28 and is specific for both MKP-6 and CD28; however, Tyr 200 can be mutated to Phe 200 without a loss of binding ability. Functional analysis indicates that MKP-6 dephosphorylates ERK, JNK and p38 while acting as a negative regulator of CD28 signaling. MKP-6 is expressed ubiquitously, although expression is stronger in certain cell types and tissues than in others.

### REFERENCES

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2. Tanoue, T., Yamamoto, T., Maeda, R. and Nishida, E. 2001. A Novel MAPK phosphatase MKP-7 acts preferentially on JNK/SAPK and p38  $\alpha$  and  $\beta$  MAPKs. *J. Biol. Chem.* 276: 26629-26639.
3. Online Mendelian Inheritance in Man, OMIM<sup>™</sup>. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 606618. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
4. Nyati, M.K., Feng, F.Y., Maheshwari, D., Varambally, S., Zielske, S.P., Ahsan, A., Chun, P.Y., Arora, V.A., Davis, M.A., Jung, M., Ljungman, M., Canman, C.E., Chinnaiyan, A.M. and Lawrence, T.S. 2006. Ataxia telangiectasia mutated down-regulates phospho-extracellular signal-regulated kinase 1/2 via activation of MKP-1 in response to radiation. *Cancer Res.* 66: 11554-11559.

### CHROMOSOMAL LOCATION

Genetic locus: DUSP14 (human) mapping to 17q12, DUSP18 (human) mapping to 22q12.2; Dusp14 (mouse) mapping to 11 C, Dusp18 (mouse) mapping to 11 A1.

### SOURCE

MKP-6 (Q-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of MKP-6 of human origin.

### PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, ready P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

### STORAGE

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

### APPLICATIONS

MKP-6 (Q-15) is recommended for detection of MKP-6 and, to a lesser extent, DUSP18 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

MKP-6 (Q-15) is also recommended for detection of MKP-6 and, to a lesser extent, DUSP18 in additional species, including equine, canine, bovine, porcine and avian.

Molecular Weight of MKP-6: 26 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227.

### RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker<sup>™</sup> compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker<sup>™</sup> Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz<sup>™</sup> Mounting Medium: sc-24941.

### RESEARCH USE

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

### PROTOCOLS

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