Revision 1

Store at -20C

#3058

DUSP6/MKP3 Antibody

Cell Signaling TECHNOLOGY®

Orders: 877-616-CELL (2355)
orders@cellsignal.com

Support: 877-678-TECH (8324)

Web: info@cellsignal.com
cellsignal.com

3 Trask Lane | Danvers | Massachusetts | 01923 | USA

For Research Use Only. Not for Use in Diagnostic Procedures.

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W	H M R	Endogenous	42	Rabbit	#Q16828	1848

Product Usage Information

Application	Dilution
Western Blotting	1:1000

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at –20°C. Do not aliquot the antibody.

Specificity/Sensitivity

DUSP6/MKP3 Antibody detects endogenous levels of total DUSP6 protein.

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to human DUSP6. Antibodies are purified by protein A and peptide affinity chromatography.

Background

MAP kinases are inactivated by dual-specificity protein phosphatases (DUSPs) that differ in their substrate specificity, tissue distribution, inducibility by extracellular stimuli, and cellular localization. DUSPs, also known as MAPK phosphatases (MKPs), specifically dephosphorylate both threonine and tyrosine residues in MAPK P-loops and have been shown to play important roles in regulating the function of the MAPK family (1,2). At least 13 members of the family (DUSP1-10, DUSP14, DUSP16, and DUSP22) display unique substrate specificities for various MAP kinases (3). MAPK phosphatases typically contain an amino-terminal rhodanese-fold responsible for DUSP docking to MAPK family members and a carboxy-terminal catalytic domain (4). These phosphatases can play important roles in development, immune system function, stress responses, and metabolic homeostasis (5). In addition, research studies have implicated DUSPs in the development of cancer and the response of cancer cells to chemotherapy (6).

DUSP6 specifically dephosphorylates ERK MAP kinase (7).

Background References

1. Camps, M. et al. (2000) *FASEB J* 14, 6-16.
2. Theodosiou, A. and Ashworth, A. (2002) *Genome Biol* 3, REVIEWS3009.
3. Salojin, K. and Oravecz, T. (2007) *J Leukoc Biol* 81, 860-9.
4. Tanoue, T. et al. (2002) *J Biol Chem* 277, 22942-9.
5. Dickinson, R.J. and Keyse, S.M. (2006) *J Cell Sci* 119, 4607-15.
6. Wu, G.S. (2007) *Cancer Metastasis Rev* 26, 579-85.
7. Kim, Y. et al. (2003) *Biochemistry* 42, 15197-207.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

W: Western Blotting

Cross-Reactivity Key

H: Human **M:** Mouse **R:** Rat

Trademarks and Patents

Limited Uses

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