Revision 1

Store at -20C

#8843

Phospho-MOB1 (Thr12) (D2E3) Rabbit mAb

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 Mk	Endogenous	24	Rabbit IgG	#Q9H8S9, #Q7L9L4	55233, 92597

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, 50% glycerol and less than 0.02% sodium azide. Store at –20°C. Do not aliquot the antibody.

Specificity/Sensitivity

Phospho-MOB1 (Thr12) (D2E3) Rabbit mAb recognizes endogenous levels of MOB1 protein only when phosphorylated at Thr12.

Species predicted to react based on 100% sequence homology

Xenopus, Horse

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic phosphopeptide corresponding to residues surrounding Thr12 of human MOB1 protein.

Background

MOB1 was first identified in yeast as a protein that binds to Mps with essential roles in the completion of mitosis and the maintenance of ploidy (1). Its *Drosophila* and mammalian homologs, Mats and MOB1, respectively, are involved in the Hippo signaling tumor suppressor pathway, which plays a critical role in organ size regulation and which has been implicated in cancer development (2-5). There are two MOB1 proteins in humans, MOB1A and MOB1B, that are encoded by two different genes but which have greater than 95% amino acid sequence identity (6). Both forms bind to members of the nuclear Dbf2-related (NDR) kinases, such as LATS1/2 and NDR1/2, thereby stimulating kinase activity (7-9). This binding is promoted by the phosphorylation of MOB1 at several threonine residues (e.g., Thr12, Thr35) by MST1 and/or MST2 (5,10).
Phosphorylation at Thr12 by MST1/2 stabilizes MOB1, enhancing its binding and regulation of LATS1 (5). The resultant increase in LATS1 kinase activity promotes inhibitory phosphorylation of the transcriptional co-activators YAP and TAZ (11,12), leading to changes in the expression of genes involved in cell cycle progression (13).

Background References

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4. Harvey, K. and Tapon, N. (2007) *Nat Rev Cancer* 7, 182-91.
5. Zeng, Q. and Hong, W. (2008) *Cancer Cell* 13, 188-92.
6. Praskova, M. et al. (2008) *Curr Biol* 18, 311-21.
7. Devroe, E. et al. (2004) *J Biol Chem* 279, 24444-51.
8. Hergovich, A. et al. (2005) *Mol Cell Biol* 25, 8259-72.
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10. Hirabayashi, S. et al. (2008) *Oncogene* 27, 4281-92.
11. Zhao, B. et al. (2007) *Genes Dev* 21, 2747-61.
12. Lei, Q.Y. et al. (2008) *Mol Cell Biol* 28, 2426-36.
13. Hao, Y. et al. (2008) *J Biol Chem* 283, 5496-509.

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 **Mk:** Monkey

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