Revision 12

Store at -20C

#14760

MKL1/MRTF-A Antibody

Cell Signaling TECHNOLOGY®

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

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W, IP	H M R	Endogenous	145	Rabbit	#Q969V6	57591

Product Usage Information

Application	Dilution
Western Blotting	1:1000
Immunoprecipitation	1:200

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

MKL1/MRTF-A Antibody recognizes endogenous levels of total MKL1/MRTF-A protein.

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Gly812 of human MKL1/MRTF-A protein. Antibodies are purified by protein A and peptide affinity chromatography.

Background

The megakaryoblastic leukemia proteins 1 and 2 (MKL1, MKL2) are myocardin-related transcription factors (MRTF-A, MRTF-B) that serve as actin-regulated transcription coactivators for the serum response factor (SRF). Interaction between G-actin and MKL proteins retains the coactivator within the cytoplasm of resting cells. Activated Rho-A promotes F-actin assembly and a reduction of the G-actin pool in serum-stimulated cells. This results in the accumulation of MKL proteins in the nucleus, where the coactivator associates with the SRF to activate target gene transcription and mediate multiple cellular processes (1-4). A number of other signaling pathways, including the TGFβ, BMP, and PDGF pathways, also make use of MKL-mediated activation of target gene transcription (5-9). Chromosomal translocations involving the genes encoding MKL1 and MKL2 have been identified in several cases of acute megakaryoblastic leukemia and chondroid lipoma (10-12).

Background References

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2. Knöll, B. (2010) *Biol Chem* 391, 591-7.
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4. Pipes, G.C. et al. (2006) *Genes Dev* 20, 1545-56.
5. O'Connor, J.W. and Gomez, E.W. (2013) *PLoS One* 8, e83188.
6. Scharenberg, M.A. et al. (2014) *J Cell Sci* 127, 1079-91.
7. Wang, D. et al. (2012) *J Biol Chem* 287, 28067-77.
8. Lundquist, M.R. et al. (2014) *Cell* 156, 563-76.
9. Vasudevan, H.N. and Soriano, P. (2014) *Dev Cell* 31, 332-44.
10. Huang, D. et al. (2010) *Genes Chromosomes Cancer* 49, 810-8.
11. Flucke, U. et al. (2013) *Histopathology* 62, 925-30.
12. Ma, Z. et al. (2001) *Nat Genet* 28, 220-1.

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 nonfat dry milk, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

W: Western Blotting **IP:** Immunoprecipitation

Cross-Reactivity Key

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

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