Revision 4

Store at -20C

#3682

MST1 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 Mk B	Endogenous	59	Rabbit	#Q13043	6789

Product Usage Information

Application	Dilution
Western Blotting	1:1000
Immunoprecipitation	1:50

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

MST1 Antibody recopgnizes endogenous levels of total MST1 protein. The antibody does not cross-react with MST2-4.

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to the amino-terminal region of human MST1 protein. Antibodies are purified by protein A and peptide affinity chromatography.

Background

Mammalian sterile-20-like (MST) kinases are upstream regulators of mitogen-activated protein kinase (MAPK) signaling pathways that regulate multiple cellular processes, including proliferation, apoptosis, migration, and cytoskeletal rearrangement (1). This family of serine/threonine kinases includes MST1 (STK4) and MST2 (STK3), two functionally related proteins with conserved amino-terminal kinase domains and carboxy-terminal regulatory domains that contain nuclear export signals (1-3). During apoptosis, caspase-mediated cleavage of MST1/2 removes the inhibitory regulatory domain, triggering autophosphorylation and activation of the kinase domain, which is translocated to the nucleus. Nuclear translocation of the active kinase induces chromatin condensation and other events associated with apoptotic progression (4).
Research studies indicate that MST1/2 are orthologous to *Drosophila* Hippo (Hpo), one of the core regulatory proteins in the Hippo signaling pathway. This evolutionarily conserved program controls tissue growth and organ size by regulating cell proliferation, apoptosis, and stem cell self-renewal. The mammalian Hippo signaling pathway involves a kinase cascade, where the MST1/2 kinases and the SAV1 scaffold protein form a complex that leads to phosphorylation and activation of LATS1/2. The LATS1/2 kinases phosphorylate YAP and TAZ, promoting cytoplasmic sequestration and inhibition of these transcription coactivators (5).

Background References

1. Dan, I. et al. (2001) *Trends Cell Biol* 11, 220-30.
2. Creasy, C.L. et al. (1996) *J Biol Chem* 271, 21049-53.
3. Lee, K.K. and Yonehara, S. (2002) *J Biol Chem* 277, 12351-8.
4. Ura, S. et al. (2001) *Proc Natl Acad Sci U S A* 98, 10148-53.
5. Zhao, B. et al. (2011) *Nat Cell Biol* 13, 877-83.

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 **IP:** Immunoprecipitation

Cross-Reactivity Key

H: Human **M:** Mouse **R:** Rat **Mk:** Monkey **B:** Bovine

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Limited Uses

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