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MST3 Antibody

Store at -20C
#3723

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

Applications: W	Reactivity: H M R Mk	Sensitivity: Endogenous	MW (kDa): 50	Source/Isotype: Rabbit	UniProt ID: #Q9Y6E0	Entrez-Gene Id: 8428
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Product Usage Information

Application

Western Blotting

Dilution

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

MST3 Antibody recognizes endogenous levels of total MST3 protein.

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Asp336 of human MST3 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 biological processes, including apoptosis, morphogenesis, cell migration, and cytoskeletal rearrangements (1). This group of serine/threonine kinases includes a pair of closely related proteins (MST1, MST2) that are functionally distinct from the more distantly related MST3 and MST4 kinases. All four MST kinases share a conserved amino-terminal kinase domain and carboxy-terminal regulatory and interaction domains (1-3). At least three of these kinases (MST1-3) promote apoptosis and are activated by caspase cleavage followed by nuclear translocation of the active kinase. MST1/2 kinases play a key role in the Hippo signaling pathway, an evolutionarily conserved program that controls organ size by regulating cell proliferation, apoptosis, and stem cell self renewal (4).

Mammalian Sterile 20-like kinase 3 (MST3, STK24) is ubiquitously expressed as a longer MST3b isoform and a shorter MST3a protein lacking a portion of the amino-terminal region (5). The widely expressed MST3a protein regulates apoptosis and cell motility, as well as neuronal migration during CNS development (6,7). MST3 phosphorylates and activates the NDR protein kinases that regulate cell cycle progression and cell morphology (8). Autophosphorylation of MST3 at Thr178 is required for *in vitro* kinase activity, and alteration of this residue inhibits MST3 regulation of cell migration *in vivo* (7). The brain-specific MST3b protein is activated by nerve growth factor or inosine and localizes to neurons where it helps regulate axon growth and regeneration (9).

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. Zhao, B. et al. (2011) *Nat Cell Biol* 13, 877-83.
5. Zhou, T.H. et al. (2000) *J Biol Chem* 275, 2513-9.
6. Tang, J. et al. (2014) *J Neurosci* 34, 7425-36.
7. Lu, T.J. et al. (2006) *J Biol Chem* 281, 38405-17.
8. Stegert, M.R. et al. (2005) *Mol Cell Biol* 25, 11019-29.
9. Lorber, B. et al. (2009) *Nat Neurosci* 12, 1407-14.

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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