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MST1 Antibody (C-term)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP7922a

Product Information

Application	WB, IHC-P, E
Primary Accession	Q13043
Other Accession	Q5E9L6
Reactivity	Human, Mouse
Predicted	Bovine, Rat, Canine, Rabbit, Chicken
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	55630
Antigen Region	385-415

Additional Information

Gene ID	6789
Other Names	Serine/threonine-protein kinase 4, Mammalian STE20-like protein kinase 1, MST-1, STE20-like kinase MST1, Serine/threonine-protein kinase Krs-2, Serine/threonine-protein kinase 4 37kDa subunit, MST1/N, Serine/threonine-protein kinase 4 18kDa subunit, MST1/C, STK4, KRS2, MST1
Target/Specificity	This MST1 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 385-415 amino acids from the C-terminal region of human MST1.
Dilution	WB~~1:1000 IHC-P~~1:100~500 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	MST1 Antibody (C-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	STK4 (HGNC:11408)
Function	Stress-activated, pro-apoptotic kinase which, following caspase-cleavage,

	enters the nucleus and induces chromatin condensation followed by internucleosomal DNA fragmentation. Key component of the Hippo signaling pathway which plays a pivotal role in organ size control and tumor suppression by restricting proliferation and promoting apoptosis. The core of this pathway is composed of a kinase cascade wherein STK3/MST2 and STK4/MST1, in complex with its regulatory protein SAV1, phosphorylates and activates LATS1/2 in complex with its regulatory protein MOB1, which in turn phosphorylates and inactivates YAP1 oncoprotein and WWTR1/TAZ. Phosphorylation of YAP1 by LATS2 inhibits its translocation into the nucleus to regulate cellular genes important for cell proliferation, cell death, and cell migration. STK3/MST2 and STK4/MST1 are required to repress proliferation of mature hepatocytes, to prevent activation of facultative adult liver stem cells (oval cells), and to inhibit tumor formation (By similarity). Phosphorylates 'Ser-14' of histone H2B (H2BS14ph) during apoptosis. Phosphorylates FOXO3 upon oxidative stress, which results in its nuclear translocation and cell death initiation. Phosphorylates MOBKL1A, MOBKL1B and RASSF2. Phosphorylates TNNI3 (cardiac Tn-I) and alters its binding affinity to TNNC1 (cardiac Tn-C) and TNNT2 (cardiac Tn-T). Phosphorylates FOXO1 on 'Ser-212' and regulates its activation and stimulates transcription of PMAIP1 in a FOXO1-dependent manner. Phosphorylates SIRT1 and inhibits SIRT1-mediated p53/TP53 deacetylation, thereby promoting p53/TP53 dependent transcription and apoptosis upon DNA damage. Acts as an inhibitor of PKB/AKT1. Phosphorylates AR on 'Ser-650' and suppresses its activity by intersecting with PKB/AKT1 signaling and antagonizing formation of AR- chromatin complexes.
Cellular Location	Cytoplasm. Nucleus. Note=The caspase-cleaved form cycles between the nucleus and cytoplasm
Tissue Location	Expressed in prostate cancer and levels increase from the normal to the malignant state (at protein level). Ubiquitously expressed.

Background

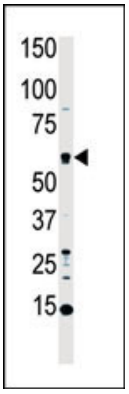
MST1 is a cytoplasmic kinase that is structurally similar to the yeast Ste20p kinase, which acts upstream of the stress-induced mitogen-activated protein kinase cascade. The encoded protein can phosphorylate myelin basic protein and undergoes autophosphorylation. A caspase-cleaved fragment of the encoded protein has been shown to be capable of phosphorylating histone H2B. The particular phosphorylation catalyzed by this protein has been correlated with apoptosis, and it is possible that this protein induces the chromatin condensation observed in this process.

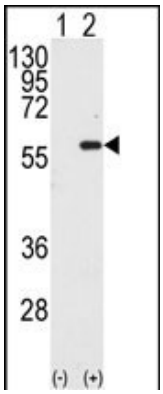
References

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De Souza, P.M., et al., Blood 99(9):3432-3438 (2002).
Ura, S., et al., Proc. Natl. Acad. Sci. U.S.A. 98(18):10148-10153 (2001).
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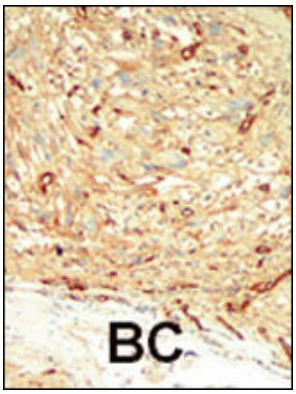
Images

Western blot analysis of anti-MST1 Pab (Cat. #AP7922a) in HL60 cell lysate. MST1 (arrow) was detected using purified Pab. Secondary HRP-anti-rabbit was used for signal visualization with chemiluminescence.





Western blot analysis of STK4 (arrow) using MST1 Antibody (C-term) (Cat.#AP7922a).293 cell lysates (2 ug/lane) either nontransfected (Lane 1) or transiently transfected with the STK4 gene (Lane 2) (Origene Technologies).



Formalin-fixed and paraffin-embedded human cancer tissue reacted with the primary antibody, which was peroxidase-conjugated to the secondary antibody, followed by DAB staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated. BC = breast carcinoma; HC = hepatocarcinoma.

Citations

- Down-regulation of mammalian sterile 20-like kinase 1 by heat shock protein 70 mediates cisplatin resistance in prostate cancer cells.
- Individualised proteome profiling of human endometrial tumours improves detection of new prognostic markers.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.