Recombinant MST1 protein

Catalog No: 31355
Expressed In: Baculovirus

Quantity: 10 µg
Concentration: 0.34 µg/µl
Source: Human

Buffer Contents: 10 µg recombinant Mst1 expressed in Sf9 cells supplied in a buffer of 45 mM Tris-HCl, pH 8.0, 124 mM NaCl, 2.4 mM KCl, 3 mM DTT, 18 mM glutathione, and 10% glycerol.

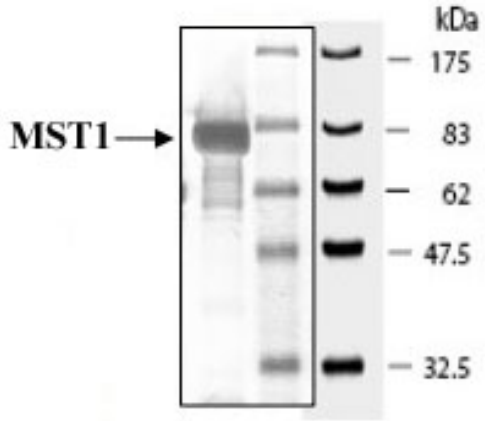
Background: MST1 (Mammalian STE20-Like Protein Kinase 1) is a stress-activated, pro-apoptotic kinase which, following caspase-cleavage, enters the nucleus and induces chromatin condensation followed by internucleosomal DNA fragmentation. Key component of the Hippo signaling pathway which plays a pivotal 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.

Protein Details: Amino acids 2-488 of MST1 (accession number NP_006273.1) were expressed with an N-terminal GST-tag, (MW=82 kDa) in Sf9 cells using a baculovirus expression system.

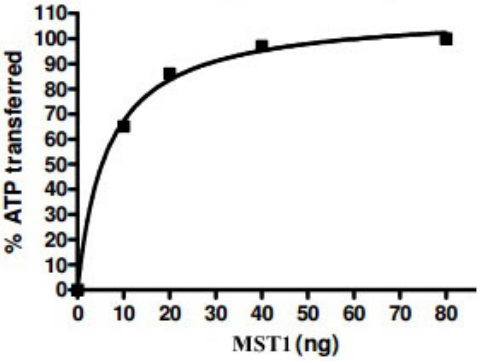
Application Notes: Recombinant MST1 is suitable for use in kinase assays. A good starting point is 5 to 25 ng of enzyme per assay.

Storage and Guarantee: Recombinant proteins in solution are temperature sensitive and must be stored at -80°C to prevent degradation. Avoid repeated freeze/thaw cycles and keep on ice when not in storage. This product is guaranteed for 6 months from date of receipt.

This product is for research use only and is not for use in diagnostic procedures.



MST1 protein gel.
MST1 (6 µg) run on an SDS-PAGE gel and stained with Coomassie blue.



MST1 activity assay.
Recombinant MST1 activity measured using a fluorescent kinase assay.