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STK3 Antibody

Rabbit mAb
Catalog # AP90625

Product Information

Application	WB, IHC, IF, FC, ICC, IP, IHF
Primary Accession	Q13188
Reactivity	Rat, Human, Mouse
Clonality	Monoclonal
Other Names	STK3; Mess1; MST-2; MST2; Serine/threonine kinase 3; KRS1; STE20-like kinase MST2;
Isotype	Rabbit IgG
Host	Rabbit
Calculated MW	56301

Additional Information

Dilution	WB: 1:1000~1:5000 IHC: 1:50~1:100 ICC/IF: 1:50~1:100 IP: 1:50 FC: 1:50
Purification	Affinity-chromatography
Immunogen	A synthesized peptide derived from human STK3
Description	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.
Storage Condition and Buffer	Rabbit IgG in phosphate buffered saline , pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol. Store at +4°C short term. Store at -20°C long term. Avoid freeze / thaw cycle.

Protein Information

Name	STK3 (HGNC:11406)
Function	Stress-activated, pro-apoptotic kinase which, following caspase-cleavage, enters the nucleus and induces chromatin condensation followed by internucleosomal DNA fragmentation (PubMed:11278283, PubMed:8566796, PubMed:8816758). 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 (PubMed:15688006, PubMed:16930133, PubMed:23972470, PubMed:28087714, PubMed:29063833, PubMed:30622739). Phosphorylation of YAP1 by LATS2 inhibits its translocation into the nucleus to regulate cellular genes important for cell proliferation, cell death, and cell migration (PubMed:15688006, PubMed:16930133, PubMed:23972470, PubMed:28087714). 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. Phosphorylates NKX2-1 (By similarity). Phosphorylates NEK2 and plays a role in centrosome disjunction by regulating the localization of NEK2 to centrosome, and its ability to phosphorylate CROCC and CEP250 (PubMed:21076410, PubMed:21723128). In conjunction with SAV1, activates the transcriptional activity of ESR1 through the modulation of its phosphorylation (PubMed:21104395). Positively regulates RAF1 activation via suppression of the inhibitory phosphorylation of RAF1 on 'Ser-259' (PubMed:20212043). Phosphorylates MOBKL1A and RASSF2 (PubMed:19525978). Phosphorylates MOBKL1B on 'Thr- 74'. Acts cooperatively with MOBKL1B to activate STK38 (PubMed:18328708, PubMed:18362890).

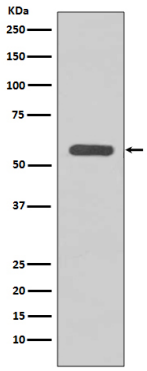
Cellular Location

Cytoplasm. Nucleus Cytoplasm, cytoskeleton, microtubule organizing center, centrosome. Note=The caspase-cleaved form cycles between nucleus and cytoplasm (PubMed:11278283, PubMed:19525978) Phosphorylation at Thr-117 leads to inhibition of nuclear translocation (PubMed:19525978).

Tissue Location

Expressed at high levels in adult kidney, skeletal and placenta tissues and at very low levels in adult heart, lung and brain tissues.

Images



Western blot analysis of STK3 expression in HeLa cell lysate.

Image not found : 202311/AP90625-IHC.jpg

Immunohistochemical analysis of paraffin-embedded human kidney, using STK3 Antibody.