ARG66406
anti-STK3 + STK4 phospho (Thr180 / Thr183) antibody

Package: 100 µg
Store at: -20°C

Summary

Product Description	Rabbit Polyclonal antibody recognizes STK3 + STK4 phospho (Thr180 / Thr183)
Tested Reactivity	Hu
Tested Application	WB
Specificity	The antibody detects endogenous levels of STK3 and STK4 protein only when phosphorylated at Thr180 / Thr183.
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Target Name	STK3 + STK4
Species	Human
Immunogen	Phosphospecific peptide around Thr180 / Thr183 of Human STK3 / STK4.
Conjugation	Un-conjugated
Alternate Names	STE20-like kinase MST1; KRS2; Serine/threonine-protein kinase 4; MST-1; MST1; TIIAC; Mammalian STE20-like protein kinase 1; MST1/N; MST1/C; EC 2.7.11.1; Serine/threonine-protein kinase Krs-2; YSK3

Application Instructions

Application table

Application	Dilution
WB	1:500 - 1:2000

Application Note	* The dilutions indicate recommended starting dilutions and the optimal dilutions or concentrations should be determined by the scientist.
Observed Size	~ 63 kDa

Properties

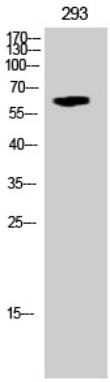
Form	Liquid
Purification	Affinity purification with immunogen.
Buffer	PBS, 0.02% Sodium azide, 50% Glycerol and 0.5% BSA.
Preservative	0.02% Sodium azide
Stabilizer	50% Glycerol and 0.5% BSA
Concentration	1 mg/ml
Storage instruction	For continuous use, store undiluted antibody at 2-8°C for up to a week. For long-term storage, aliquot and store at -20°C. Storage in frost free freezers is not recommended. Avoid repeated freeze/thaw cycles. Suggest spin the vial prior to opening. The antibody solution should be gently mixed before use.

Note	For laboratory research only, not for drug, diagnostic or other use.

Bioinformation

Gene Symbol	STK4
Gene Full Name	serine/threonine kinase 4
Background	The protein encoded by this gene 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's possible that this protein induces the chromatin condensation observed in this process. [provided by RefSeq, Jul 2008]
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. [UniProt]
Calculated Mw	56 kDa
PTM	Autophosphorylated on serine and threonine residues. Phosphorylation at Thr-120 and Thr-387 by PKB/AKT1, leads to inhibition of its: kinase activity, nuclear translocation and autophosphorylation at Thr-183. It also diminishes its cleavage by caspases and its ability to phosphorylate FOXO3. Proteolytically cleaved by caspase-3 during apoptosis at Asp-326 and Asp-349 resulting in a 37 kDa or a 39 kDa subunit respectively. The 39 kDa subunit is further cleaved into the 37 kDa form. Proteolytic cleavage results in kinase activation and nuclear translocation of the truncated form (MST1/N). It is less likely that cleavage at Asp-349 is a prerequisite for activation as this site is not conserved in the murine ortholog. [UniProt]
Cellular Localization	Cytoplasm. Nucleus. Note=The caspase-cleaved form cycles between the nucleus and cytoplasm. [UniProt]

Images



ARG66406 anti-STK3 + STK4 phospho (Thr180 / Thr183) antibody WB image

Western blot: 293 cell lysate stained with ARG66406 anti-STK3 + STK4 phospho (Thr180 / Thr183) antibody.