10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

phospho-MST4 + MST3 + STK25 (Thr178 + Thr190 + Thr174) Rabbit pAb

Catalog # AP97077

Product Information

Application	WB, IHC-P, IHC-F, IF
Primary Accession	O00506
Other Accession	O00506
Reactivity	Rat, Human, Mouse
Predicted	Horse, Sheep
Host	Rabbit
Clonality	Polyclonal
Calculated MW	48112
Physical State	Liquid
Immunogen	KLH conjugated synthesised phosphopeptide derived from human MST4/MST3/STK25 around the phosphorylation site of Thr178/Thr190/Thr174
Epitope Specificity	RN(p-T)FV
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SIMILARITY	Belongs to the protein kinase superfamily. STE Ser/Thr protein kinase family. STE20 subfamily.Contains 1 protein kinase domain.
SUBUNIT	Monomer.
Post-translational modifications	MST3: Proteolytically processed by caspases during apoptosis. Proteolytic cleavage results in kinase activation, nuclear translocation of the truncated form (MST3/N) and the induction of apoptosis. Isoform B is activated by phosphorylation by PKA. Oxidative stress induces phosphorylation. Activated by autophosphorylation at Thr-190 and phosphorylation at this site is essential for its function. Manganese, magnesium and cobalt-dependent autophosphorylation is mainly on threonine residues while zinc-dependent autophosphorylation is on both serine and threonine residues.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	Novel human Ste20-related kinase Mst4 is biologically active in the activation of MEK/ERK pathway and in mediating cell growth and transformation. It is pro apoptotic and is highly expressed in placenta, thymus, and peripheral blood leukocytes. Interaction with Golgi matrix protein GOLGA2 results in autophosphorylation on Thr-178, possibly as a consequence of stabilization of dimer formation. This may also be activated by C terminal cleavage. MST3 or Mammalian Sterile 20-like kinase 3 is a member of the germinal center kinase-III family. MST3 contains a conserved kinase domain at its NH(2)-terminus and a regulatory domain at its COOH-terminus. Caspase-mediated cleavage of the regulatory domain of MST3 activates its intrinsic kinase activity and leads to nuclear translocation. Expression of COOH-terminal truncated MST3 in cells results in DNA fragmentation and induction of apoptosis. It can inhibit cell migration in a fashion dependent on autophosphorylation and can regulate paxillin phosphorylation through tyrosine phosphatase PTP-PEST. Mitogen activated protein kinase cascades

have been conserved throughout evolution. In mammals, these cascades allow responses to complex stimuli such as growth factors and inflammatory cytokines. In yeast, STK25 functions upstream of the MAPK cascade.

Additional Information

Gene ID	10494
Other Names	SOK1; YSK1; MASK; MST4; HEL-S-95; MST3; MST3B; STE20; STK3; STK25_HUMAN; STK25; Ste20-like kinase; Sterile 20/oxidant stress-response kinase 1 (SOK-1 | Ste20/oxidant stress response kinase 1); 2.7.11.1; STK26_HUMAN; STK26; MST3 and SOK1-related kinase; Mammalian STE20-like protein kinase 4 (MST-4 | STE20-like kinase MST4); Serine/threonine-protein kinase MASK; STK24_HUMAN; STK24; Mammalian STE20-like protein kinase 3 (MST-3); STE20-like kinase MST3; serine/threonine kinase 25; serine/threonine kinase 25 (Ste20, yeast homolog); MST4 & MST3 & STK25 (phospho-T178/T190/T174); p-MST4 & MST3 & STK25; phospho-MST4 & MST3 & STK25; MST4 & MST3 & STK25 (phospho-Thr178/Thr190/Thr174)
Dilution	WB=1:500-2000,IHC-P=1:100-500,IHC-F=1:100-500,IF=1:100-500
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

Protein Information

Name	STK25 (HGNC:11404)
Synonyms	SOK1, YSK1
Function	Oxidant stress-activated serine/threonine kinase that plays a role in metabolic homeostasis, neuronal polarization, cell migration, Golgi organization, apoptosis or innate immunity. Targets to the Golgi apparatus where it appears to regulate protein transport events, cell adhesion, and polarity complexes important for cell migration. Part of the striatin-interacting phosphatase and kinase (STRIPAK) complexes. STRIPAK complexes have critical roles in protein (de)phosphorylation and are regulators of multiple signaling pathways including Hippo, MAPK, nuclear receptor and cytoskeleton remodeling. Different types of STRIPAK complexes are involved in a variety of biological processes such as cell growth, differentiation, apoptosis, metabolism and immune regulation (PubMed:18782753). Functions as an inhibitor of the PKA pathway by affecting phosphorylation of the PRKAR1A regulatory subunit, which in turn suppresses the kinase activity of the catalytic subunit (PubMed:35977512). Positively regulates the TLR signaling by directly phosphorylating the transcription factor IRF5 (PubMed:40639948).
Cellular Location	Cytoplasm. Golgi apparatus. Note=Localizes to the Golgi apparatus
Tissue Location	Ubiquitously expressed. Highest levels are found in testis, large intestine, brain and stomach followed by heart and lung

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