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phospho-SAPK3 (Thr183+Tyr185) Rabbit pAb

Catalog # AP99790

Product Information

Application	WB, IHC-P, IHC-F, IF, E
Primary Accession	P53778
Other Accession	P53778
Predicted	Rat, Pig, Human, Mouse, Rabbit, Chicken, Dog
Host	Rabbit
Clonality	Polyclonal
Calculated MW	41940
Physical State	Liquid
Immunogen	KLH conjugated synthesised phosphopeptide derived from human SAPK3 around the phosphorylation site of Thr183+Tyr185
Epitope Specificity	EM(p-T)G(p-Y)VV
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. CMGC Ser/Thr protein kinase family. MAP kinase subfamily. Contains 1 protein kinase domain.
Post-translational modifications	Dually phosphorylated on Thr-183 and Tyr-185, which activates the enzyme.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	MAP (mitogen-activated protein) kinases play a significant role in many biological processes, including cell adhesion and spreading, cell differentiation and apoptosis. p38 alpha, p38 beta and p38 gamma, also known as MAPK14, MAPK11 and MAPK12, respectively, each contain one protein kinase domain and belong to the MAP kinase family. Expressed in different areas throughout the body with common expression patterns in heart, p38 proteins use magnesium as a cofactor to catalyze the ATP-dependent phosphorylation of target proteins. Via their catalytic activity, p38 alpha, p38 beta and p38 gamma are involved in a variety of events throughout the cell, including signal transduction pathways, cytokine production and cell proliferation and differentiation. The p38 proteins are subject to phosphoryation on Thr and Tyr residues, an event which is thought to activate the phosphorylated protein.

Additional Information

Gene ID	6300
Other Names	ERK-6; ERK3; ERK6; MAPK 12; P38GAMMA; PRKM12; SAPK-3; SAPK3; MK12_HUMAN; MAPK12; MAP kinase 12; Extracellular signal-regulated kinase 6 (ERK-6); Mitogen-activated protein kinase p38 gamma (MAP kinase p38 gamma); Stress-activated protein kinase 3; 2.7.11.24; MK12_MOUSE; mitogen-activated protein kinase 12; MAPK12 | SAPK3 (phospho-T183/Y185);

	p-SAPK3; phospho-SAPK3; p-MAPK12; MAPK12 | SAPK3 (phospho-Thr183/Tyr185)
Dilution	WB=1:500-2000,IHC-P=1:100-500,IHC-F=1:100-500,ICC/IF=1:100-500,IF=1:100-500,ELISA=1:5000-10000
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	MAPK12
Synonyms	ERK6, SAPK3
Function	Serine/threonine kinase which acts as an essential component of the MAP kinase signal transduction pathway. MAPK12 is one of the four p38 MAPKs which play an important role in the cascades of cellular responses evoked by extracellular stimuli such as pro-inflammatory cytokines or physical stress leading to direct activation of transcription factors such as ELK1 and ATF2. Accordingly, p38 MAPKs phosphorylate a broad range of proteins and it has been estimated that they may have approximately 200 to 300 substrates each. Some of the targets are downstream kinases such as MAPKAPK2, which are activated through phosphorylation and further phosphorylate additional targets. Plays a role in myoblast differentiation and also in the down-regulation of cyclin D1 in response to hypoxia in adrenal cells suggesting MAPK12 may inhibit cell proliferation while promoting differentiation. Phosphorylates DLG1. Following osmotic shock, MAPK12 in the cell nucleus increases its association with nuclear DLG1, thereby causing dissociation of DLG1-SFPQ complexes. This function is independent of its catalytic activity and could affect mRNA processing and/or gene transcription to aid cell adaptation to osmolarity changes in the environment. Regulates UV-induced checkpoint signaling and repair of UV-induced DNA damage and G2 arrest after gamma-radiation exposure. MAPK12 is involved in the regulation of SLC2A1 expression and basal glucose uptake in L6 myotubes; and negatively regulates SLC2A4 expression and contraction-mediated glucose uptake in adult skeletal muscle. C-Jun (JUN) phosphorylation is stimulated by MAPK14 and inhibited by MAPK12, leading to a distinct AP-1 regulation. MAPK12 is required for the normal kinetochore localization of PLK1, prevents chromosomal instability and supports mitotic cell viability. MAPK12- signaling is also positively regulating the expansion of transient amplifying myogenic precursor cells during muscle growth and regeneration.
Cellular Location	Cytoplasm. Nucleus. Mitochondrion. Note=Mitochondrial when associated with SH3BP5. In skeletal muscle colocalizes with SNTA1 at the neuromuscular junction and throughout the sarcolemma (By similarity).
Tissue Location	Highly expressed in skeletal muscle and heart.

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