Anti-MK12 antibody

Description	Unconjugated Rabbit polyclonal to MK12

Model	STJ191718
Host	Rabbit
Reactivity	Human, Mouse, Rat
Applications	ELISA, WB
Immunogen	Synthesized peptide derived from human MK12 protein.
Immunogen Region	70-150aa
Gene ID	6300
Gene Symbol	MAPK12
Dilution range	WB 1:500-2000 ELISA 1:5000-20000
Specificity	MK12 Polyclonal Antibody detects endogenous levels of protein.
Tissue Specificity	Highly expressed in skeletal muscle and heart.
Purification	MK12 antibody was affinity-purified from rabbit antiserum by affinity-chromatography using epitope-specific immunogen.
Note	For Research Use Only (RUO).
Protein Name	Mitogen-activated protein kinase 12 MAP kinase 12 MAPK 12 Extracellular signal-regulated kinase 6 ERK-6 Mitogen-activated protein kinase p38 gamma MAP kinase p38 gamma Stress-activated protein kinase 3
Molecular Weight	40 kDa
Clonality	Polyclonal

Conjugation	Unconjugated
Isotype	IgG
Formulation	Liquid form in PBS containing 50% glycerol,and 0.02% sodium azide.
Concentration	1 mg/ml
Storage Instruction	Store at -20°C, and avoid repeat freeze-thaw cycles.
Database Links	HGNC:6874OMIM:602399
Alternative Names	Mitogen-activated protein kinase 12 MAP kinase 12 MAPK 12 Extracellular signal-regulated kinase 6 ERK-6 Mitogen-activated protein kinase p38 gamma MAP kinase p38 gamma Stress-activated protein kinase 3
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 proinflammatory 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.
Sequence and Domain Family	The TXY motif contains the threonine and tyrosine residues whose phosphorylation activates the MAP kinases.
Cellular Localization	Cytoplasm. Nucleus. Mitochondrion. Mitochondrial when associated with SH3BP5. In skeletal muscle colocalizes with SNTA1 at the neuromuscular junction and throughout the sarcolemma .
Post-translational Modifications	Dually phosphorylated on Thr-183 and Tyr-185 by MAP2K3/MKK3 and MAP2K6/MKK6, which activates the enzyme. Ubiquitinated. Ubiquitination leads to degradation by the proteasome pathway.

T +44 (0)208 223 3081 **E** info@stjohnslabs.com