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MAPK12 Antibody (Center) Blocking Peptide

Synthetic peptide
Catalog # BP7224c

Specification

MAPK12 Antibody (Center) Blocking Peptide - Product Information

Primary Accession P53778

MAPK12 Antibody (Center) Blocking Peptide - Additional Information

Gene ID 6300

Other 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, MAPK12, ERK6, SAPK3

Target/Specificity
The synthetic peptide sequence used to generate the antibody AP7224c was selected from the Center region of human MAPK12 . A 10 to 100 fold molar excess to antibody is recommended. Precise conditions should be optimized for a particular assay.

Format
Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions
This product is for research use only. Not for use in diagnostic or therapeutic procedures.

MAPK12 Antibody (Center) Blocking Peptide - 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.

MAPK12 Antibody (Center) Blocking Peptide - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Blocking Peptides

MAPK12 Antibody (Center) Blocking Peptide - Images

MAPK12 Antibody (Center) Blocking Peptide - Background

Activation of members of the mitogen-activated protein kinase family is a major mechanism for transduction of extracellular signals. Stress-activated protein kinases are one subclass of MAP kinases. MAPK12 functions as a signal transducer during differentiation of myoblasts to myotubes.

MAPK12 Antibody (Center) Blocking Peptide - References

Garcia-Lora, A., et al., Cancer Immunol. Immunother. 52(1):59-64 (2003).Julien, C., et al., J. Biol. Chem. 278(43):42615-42624 (2003).Robinson, M.J., et al., J. Biol. Chem. 277(7):5094-5100 (2002).Court, N.W., et al., J. Mol. Cell. Cardiol. 34(4):413-426 (2002).Wang, X., et al., Mol. Cell. Biol. 20(13):4543-4552 (2000).