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Phospho-MAP4K1(S171) Antibody Blocking peptide

Synthetic peptide
Catalog # BP3451a

Specification

Phospho-MAP4K1(S171) Antibody Blocking peptide - Product Information

Primary Accession Q92918

Phospho-MAP4K1(S171) Antibody Blocking peptide - Additional Information

Gene ID 11184

Other Names
Mitogen-activated protein kinase kinase kinase kinase 1, Hematopoietic progenitor kinase, MAPK/ERK kinase kinase kinase 1, MEK kinase kinase 1, MEKKK 1, MAP4K1, HPK1

Target/Specificity
The synthetic peptide sequence used to generate the antibody AP3451a was selected from the region of human Phospho-MAP4K1-S171. 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.

Phospho-MAP4K1(S171) Antibody Blocking peptide - Protein Information

Name MAP4K1

Synonyms HPK1

Function
Serine/threonine-protein kinase, which may play a role in the response to environmental stress (PubMed:24362026). Appears to act upstream of the JUN N-terminal pathway (PubMed:8824585). May play a role in hematopoietic lineage decisions and growth regulation (PubMed:8824585, PubMed:24362026). Able to autophosphorylate (PubMed:8824585). Together with CLNK, it enhances CD3-triggered activation of

T-cells and subsequent IL2 production (By similarity).

Tissue Location
Expressed primarily in hematopoietic organs, including bone marrow, spleen and thymus. Also expressed at very low levels in lung, kidney, mammary glands and small intestine

Phospho-MAP4K1(S171) Antibody Blocking peptide - Protocols

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

- Blocking Peptides

Phospho-MAP4K1(S171) Antibody Blocking peptide - Images

Phospho-MAP4K1(S171) Antibody Blocking peptide - Background

The c-Jun amino-terminal kinases (JNKs)/stress-activated protein kinases (SAPKs) play a crucial role in stress responses in mammalian cells. The mechanism underlying this pathway in the hematopoietic system is unclear, but it is a key in understanding the molecular basis of blood cell differentiation. We have cloned a novel protein kinase, termed hematopoietic progenitor kinase 1 (HPK1), that is expressed predominantly in hematopoietic cells, including early progenitor cells. HPK1 is related distantly to the p21(Cdc42/Rac1)-activated kinase (PAK) and yeast STE20 implicated in the mitogen-activated protein kinase (MAPK) cascade. Expression of HPK1 activates JNK1 specifically, and it elevates strongly AP-1-mediated transcriptional activity in vivo. HPK1 binds and phosphorylates MEKK1 directly, whereas JNK1 activation by HPK1 is inhibited by a dominant-negative MEKK1 or MKK4/SEK mutant. Interestingly, unlike PAK65, HPK1 does not contain the small GTPase Rac1/Cdc42-binding domain and does not bind to either Rac1 or Cdc42, suggesting that HPK1. activation is Rac1/Cdc42-independent. These results indicate that HPK1 is a novel functional activator of the JNK/SAPK signaling pathway.

Phospho-MAP4K1(S171) Antibody Blocking peptide - References

Hu M.C.-T., Genes Dev. 10:2251-2264(1996).Beausoleil S.A., Proc. Natl. Acad. Sci. U.S.A. 101:12130-12135(2004).Wissing J., Mol. Cell. Proteomics 6:537-547(2007).