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VRK2 Antibody (N-term) Blocking Peptide
Synthetic peptide
Catalog # BP7409a

Specification

VRK2 Antibody (N-term) Blocking Peptide - Product Information

Primary Accession	Q86Y07
Other Accession	Q99987

VRK2 Antibody (N-term) Blocking Peptide - Additional Information

Gene ID 7444

Other Names
Serine/threonine-protein kinase VRK2, Vaccinia-related kinase 2, VRK2

Target/Specificity
The synthetic peptide sequence used to generate the antibody AP7409a was selected from the N-term region of human VRK2 . 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.

VRK2 Antibody (N-term) Blocking Peptide - Protein Information

Name VRK2

Function
Serine/threonine kinase that regulates several signal transduction pathways (PubMed:16704422, PubMed:14645249, PubMed:16495336, PubMed:17709393, PubMed:18617507, PubMed:18286207, PubMed:20679487). Isoform 1 modulates the stress response to hypoxia and cytokines, such as interleukin-1 beta (IL1B) and this is dependent on its interaction with MAPK8IP1, which assembles mitogen-activated protein kinase (MAPK) complexes (PubMed:<a href="http://www.uniprot.org/citations/17709393"

target="_blank">17709393). Inhibition of signal transmission mediated by the assembly of MAPK8IP1-MAPK complexes reduces JNK phosphorylation and JUN-dependent transcription (PubMed:18286207). Phosphorylates 'Thr-18' of p53/TP53, histone H3, and may also phosphorylate MAPK8IP1 (PubMed:16704422). Phosphorylates BANF1 and disrupts its ability to bind DNA and reduces its binding to LEM domain-containing proteins (PubMed:16495336). Down-regulates the transactivation of transcription induced by ERBB2, HRAS, BRAF, and MEK1 (PubMed:20679487). Blocks the phosphorylation of ERK in response to ERBB2 and HRAS (PubMed:20679487). Can also phosphorylate the following substrates that are commonly used to establish in vitro kinase activity: casein, MBP and histone H2B, but it is not sure that this is physiologically relevant (PubMed:14645249).

Cellular Location
[Isoform 1]: Cytoplasm. Endoplasmic reticulum membrane; Single-pass type IV membrane protein. Mitochondrion membrane; Single-pass type IV membrane protein. Nucleus envelope {ECO:0000250|UniProtKB:Q8BN21}

Tissue Location
Isoform 1 and isoform 2 are expressed in various tumor cell lines. Expression of isoform 1 inversely correlates with ERBB2 in breast carcinomas (at protein level). Widely expressed. Highly expressed in fetal liver, skeletal muscle, pancreas, heart, peripheral blood leukocytes and testis.

VRK2 Antibody (N-term) Blocking Peptide - Protocols

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

- Blocking Peptides

VRK2 Antibody (N-term) Blocking Peptide - Images

VRK2 Antibody (N-term) Blocking Peptide - Background

This gene encodes a member of the vaccinia-related kinase (VRK) family of serine/threonine protein kinases. This gene is widely expressed in human tissues and has increased expression in actively dividing cells, such as those in testis, leukocytes, fetal liver, and carcinomas. Its protein localizes to the endoplasmic reticulum and has been shown to phosphorylate casein and undergo autophosphorylation. While several transcript variants may exist for this gene, the full-length nature of only one has been biologically validated to date.

VRK2 Antibody (N-term) Blocking Peptide - References

Nezu, J., et al., Genomics 45(2):327-331 (1997).