

**VRK3 Antibody (Center) Blocking Peptide**  
**Synthetic peptide**  
**Catalog # BP7410c****Specification**

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**VRK3 Antibody (Center) Blocking Peptide - Product Information**

Primary Accession [Q8IV63](#)  
Other Accession [Q9P2V8](#)

**VRK3 Antibody (Center) Blocking Peptide - Additional Information**

**Gene ID** 51231

**Other Names**

Inactive serine/threonine-protein kinase VRK3, Serine/threonine-protein pseudokinase VRK3, Vaccinia-related kinase 3, VRK3

**Target/Specificity**

The synthetic peptide sequence used to generate the antibody [AP7410c](/product/products/AP7410c) was selected from the Center region of human VRK3. 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.

**VRK3 Antibody (Center) Blocking Peptide - Protein Information**

**Name** VRK3

**Function**

Plays a role in the regulation of the cell cycle by phosphorylating the nuclear envelope protein barrier-to-autointegration factor/BAF that is required for disassembly and reassembly, respectively, of the nuclear envelope during mitosis (PubMed: [25899223](http://www.uniprot.org/citations/25899223)). Under normal physiological conditions, negatively regulates ERK activity along with VHR/DUSP3 phosphatase in the nucleus, causing timely and transient action of ERK. Stress conditions activate CDK5 which phosphorylates VRK3 to increase VHR phosphatase activity and suppress prolonged ERK activation that causes cell death (PubMed: [27346674](http://www.uniprot.org/citations/27346674)). For example, upon glutamate induction, promotes nuclear localization of HSP70/HSPA1A to inhibit ERK

activation via VHR/DUSP3 phosphatase (PubMed:<a href="http://www.uniprot.org/citations/27941812" target="\_blank">27941812</a>).

**Cellular Location**

Nucleus. Cytoplasm. Note=Under oxidative stress, migrates from the nucleus to the cytoplasm.

**VRK3 Antibody (Center) Blocking Peptide - Protocols**

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

- [Blocking Peptides](#)

**VRK3 Antibody (Center) Blocking Peptide - Images****VRK3 Antibody (Center) Blocking Peptide - Background**

This gene encodes a member of the vaccinia-related kinase (VRK) family of serine/threonine protein kinases. In both human and mouse, this gene has substitutions at several residues within the ATP binding motifs that in other kinases have been shown to be required for catalysis. In vitro assays indicate the protein lacks phosphorylation activity. The protein, however, likely retains its substrate binding capability. This gene is widely expressed in human tissues and its protein localizes to the nucleus. Alternative splicing results in multiple transcripts encoding different isoforms.

**VRK3 Antibody (Center) Blocking Peptide - References**

Strausberg, R.L., et al., Proc. Natl. Acad. Sci. U.S.A. 99(26):16899-16903 (2002).