

**VRK1 Antibody (Center)**  
**Purified Rabbit Polyclonal Antibody (Pab)**  
**Catalog # AP7408c****Specification**

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**VRK1 Antibody (Center) - Product Information**

Application	WB,E
Primary Accession	<a href="#">Q99986</a>
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	45476
Antigen Region	366-396

**VRK1 Antibody (Center) - Additional Information****Gene ID** 7443**Other Names**

Serine/threonine-protein kinase VRK1, Vaccinia-related kinase 1, VRK1

**Target/Specificity**

This VRK1 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 366-396 amino acids from the Central region of human VRK1.

**Dilution**

WB~~1:2000

E~~Use at an assay dependent concentration.

**Format**

Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.

**Storage**

Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

**Precautions**

VRK1 Antibody (Center) is for research use only and not for use in diagnostic or therapeutic procedures.

**VRK1 Antibody (Center) - Protein Information****Name** VRK1 {ECO:0000303|PubMed:9344656, ECO:0000312|HGNC:HGNC:12718}**Function** Serine/threonine kinase involved in the regulation of key cellular processes including the cell cycle, nuclear condensation, transcription regulation, and DNA damage response

(PubMed:[14645249](#), PubMed:[18617507](#), PubMed:[19103756](#), PubMed:[33076429](#)). Controls chromatin organization and remodeling by mediating phosphorylation of histone H3 on 'Thr-4' and histone H2AX (H2aXT4ph) (PubMed:[31527692](#), PubMed:[37179361](#)). It also phosphorylates KAT5 in response to DNA damage, promoting KAT5 association with chromatin and histone acetyltransferase activity (PubMed:[33076429](#)). Is involved in the regulation of cell cycle progression of neural progenitors, and is required for proper cortical neuronal migration (By similarity). Is involved in neurite elongation and branching in motor neurons, and has an essential role in Cajal bodies assembly, acting through COIL phosphorylation and the control of coilin degradation (PubMed:[21920476](#), PubMed:[31090908](#), PubMed:[31527692](#)). Involved in Golgi disassembly during the cell cycle: following phosphorylation by PLK3 during mitosis, it is required to induce Golgi fragmentation (PubMed:[19103756](#)). Phosphorylates BANF1: disrupts its ability to bind DNA, reduces its binding to LEM domain-containing proteins and causes its relocation from the nucleus to the cytoplasm (PubMed:[16495336](#)). Phosphorylates TP53BP1 and p53/TP53 on 'Thr-18', preventing the interaction between p53/TP53 and MDM2 (PubMed:[10951572](#), PubMed:[31527692](#)). Phosphorylates ATF2 which activates its transcriptional activity (PubMed:[15105425](#)). Phosphorylates JUN (PubMed:[31527692](#)).

#### Cellular Location

Nucleus. Cytoplasm. Nucleus, Cajal body. Note=Enriched on chromatin during mitosis.

#### Tissue Location

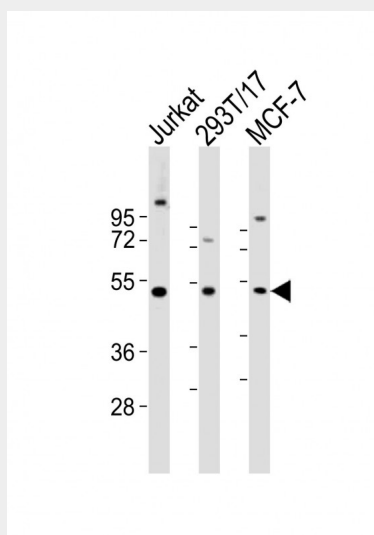
Widely expressed. Highly expressed in fetal liver, testis and thymus.

### VRK1 Antibody (Center) - Protocols

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

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

### VRK1 Antibody (Center) - Images



All lanes : Anti-VRK1(E381) antibody at 1:2000 dilution Lane 1: Jurkat whole cell lysates Lane 2: 293T/17 whole cell lysates Lane 3: MCF-7 whole cell lysates Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution Predicted band size : 45 kDa Blocking/Dilution buffer: 5% NFDm/TBST.

#### **VRK1 Antibody (Center) - 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, thymus, fetal liver, and carcinomas. Its protein localizes to the nucleus and has been shown to promote the stability and nuclear accumulation of a transcriptionally active p53 molecule and, in vitro, to phosphorylate Thr18 of p53 and reduce p53 ubiquitination. This gene, therefore, may regulate cell proliferation. This protein also phosphorylates histone, casein, and the transcription factors ATF2 (activating transcription factor 2) and c-JUN.

#### **VRK1 Antibody (Center) - References**

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