

**VRK1 Antibody (Center)(Ascites)**  
**Mouse Monoclonal Antibody (Mab)**  
**Catalog # AM2226a****Specification**

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

Application	WB,E
Primary Accession	<a href="#">Q99986</a>
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Isotype	IgG1
Calculated MW	45476

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

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

**Target/Specificity**

Purified His-tagged VRK1 protein was used to produced this monoclonal antibody.

**Dilution**

WB~~1:5000

**Format**

Mouse monoclonal antibody supplied in crude ascites with 0.09% (W/V) sodium azide.

**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)(Ascites) is for research use only and not for use in diagnostic or therapeutic procedures.

**VRK1 Antibody (Center)(Ascites) - 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 relocalization 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

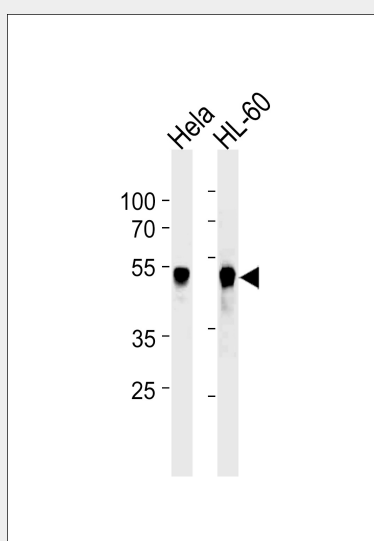
Widely expressed. Highly expressed in fetal liver, testis and thymus.

### VRK1 Antibody (Center)(Ascites) - 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)(Ascites) - Images



VRK1 Antibody (Center)(Cat. #AM2226a) western blot analysis in HeLa,HL-60 cell line lysates (35µg/lane).This demonstrates the VRK1 antibody detected the VRK1 protein (arrow).

### VRK1 Antibody (Center)(Ascites) - Background

Serine/threonine kinase involved in Golgi disassembly during the cell cycle: following phosphorylation by PLK3 during mitosis, required to induce Golgi fragmentation. Acts by mediating phosphorylation of downstream target protein. Phosphorylates 'Thr-18' of p53/TP53 and may thereby prevent the interaction between p53/TP53 and MDM2. Phosphorylates casein and histone H3. Phosphorylates BANF1: disrupts its ability to bind DNA, reduces its binding to LEM domain-containing proteins and causes its relocalization from the nucleus to the cytoplasm.

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

Nezu J., et al. Genomics 45:327-331(1997).  
Lopez-Borges S., et al. Oncogene 19:3656-3664(2000).  
Barcia R., et al. Arch. Biochem. Biophys. 399:1-5(2002).  
Nichols R.J., et al. J. Biol. Chem. 279:7934-7946(2004).  
Blanco S., et al. FEBS J. 273:2487-2504(2006).