VRK1 Protein, Human (sf9)

Cat. No.:	HY-P77504
Synonyms:	Serine/threonine-protein kinase VRK1; Vaccinia-related kinase 1; VRK1
Species:	Human
Source:	Sf9 insect cells
Accession:	Q99986 (N-G&P, M1-K396)
Gene ID:	7443
Molecular Weight:	Approximately 47 kDa

PROPERTIES

Biological Activity	The enzyme activity of this recombinant protein is testing in progress, we cannot offer a guarantee yet.
Appearance	Solution.
Formulation	Supplied as a 0.2 μm filtered solution of 20 mM Tris, 500 mM NaCl, 10% glycerol, pH 7.4.
Endotoxin Level	<1 EU/μg, determined by LAL method.
Reconsititution	N/A.
Storage & Stability	Stored at -80°C for 1 year. It is stable at -20°C for 3 months after opening. It is recommended to freeze aliquots at -80°C for extended storage. Avoid repeated freeze-thaw cycles.
Shipping	Shipping with dry ice.

DESCRIPTION

Background	VRK1, a serine/threonine kinase, intricately participates in cell cycle regulation, nuclear condensation, and transcriptional control. Through its diverse functions, VRK1 exhibits a multifaceted impact on cellular processes. Notably, it plays a crucial role in Golgi disassembly during the cell cycle, a process initiated by phosphorylation from PLK3 during mitosis, ultimately leading to Golgi fragmentation. VRK1 further modulates the intricate network of p53/TP53, phosphorylating 'Thr-18' and potentially impeding the interaction between p53/TP53 and MDM2. In response to DNA damage, VRK1 phosphorylates KAT5, fostering its association with chromatin and enhancing histone acetyltransferase activity. Moreover, VRK1 influences nuclear dynamics by phosphorylating BANF1, disrupting its DNA-binding capability, reducing its interaction with LEM domain-containing proteins, and triggering its relocalization from the nucleus to the cytoplasm. Additionally, VRK1 targets ATF2, activating its transcriptional activity and further expanding the regulatory repertoire of this versatile kinase.

Caution: Product has not been fully validated for medical applications. For research use only.

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