

VRK1 Protein, Human (sf9, His-GST)

Cat. No.:	HY-P77505
Synonyms:	Serine/threonine-protein kinase VRK1; Vaccinia-related kinase 1; VRK1
Species:	Human
Source:	Sf9 insect cells
Accession:	Q99986 (M1-K396)
Gene ID:	7443
Molecular Weight:	65-70 kDa

PROPERTIES

Biological Activity	No Kinase Activity.
Appearance	Lyophilized powder.
Formulation	Lyophilized from a 0.2 μ m filtered solution of 20 mM Tris, 500 mM NaCl, pH 7.4, 10% Glycerol. Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween 80 are added as protectants before lyophilization.
Endotoxin Level	<1 EU/ μ g, determined by LAL method.
Reconstitution	It is not recommended to reconstitute to a concentration less than 100 μ g/mL in ddH ₂ O.
Storage & Stability	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
Shipping	Room temperature in continental US; may vary elsewhere.

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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