

Recombinant VRK1 protein

Catalog No: 81096, 81896

Lot No: 32317001

Expressed In: Baculovirus

Quantity: 20, 1000 µg

Concentration: 0.35 µg/µl

Source: Human

Buffer Contents: Recombinant VRK1 protein is supplied in 25 mM HEPES-NaOH pH 7.5, 300 mM NaCl, 10% glycerol, 0.04% Triton X-100 and 0.5 mM TCEP.

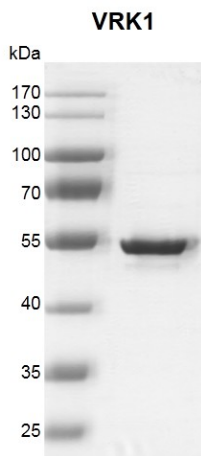
Background: VRK1 (Vaccinia Related Kinase 1), also known as PCH1A, is a serine/threonine kinase. It is involved in Golgi disassembly during the cell cycle, by which following phosphorylation by PLK3 during mitosis, it is required to induce Golgi fragmentation. VRK1 acts by mediating phosphorylation of downstream target protein. It can phosphorylate Thr-18 of p53/TP53 and may thereby prevent the interaction between p53/TP53 and MDM2. It phosphorylates BANF1, thus 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 also phosphorylates casein and histone H3, as well as ATF2 which activates its transcriptional activity.

Protein Details: Recombinant human VRK1 protein was expressed in a baculovirus expression system as the full length protein (accession number NP_003375.1) with a N-terminal FLAG tag. The molecular weight of the protein is 46.7 kDa.

Application Notes: This protein is suitable for use in binding assays, inhibitor screening, and selectivity profiling.

Kinase Activity Assay Conditions: 1 µM STK S1 substrate was incubated with different concentrations of VRK1 protein in 10 µl reaction system containing 1×Enzymatic Buffer, 5 mM MgCl₂, 1 mM DTT and 100 µM ATP for 1 hour. The 10 µl detection reagents containing STK antibody and SA-XL665, each of which was 1:100 diluted with 1×Detection Buffer were added and incubated with the reactions for 1 hr. All the operations and reactions were performed at room temperature, and HTRF KinASE STK assay was used to detect the enzymatic activity.

Storage and Guarantee: Recombinant proteins in solution are temperature sensitive and must be stored at -80°C to prevent degradation. Avoid repeated freeze/thaw cycles and keep on ice when not in storage. This product is for research use only and is not for use in diagnostic procedures. This product is guaranteed for 6 months from date of arrival.

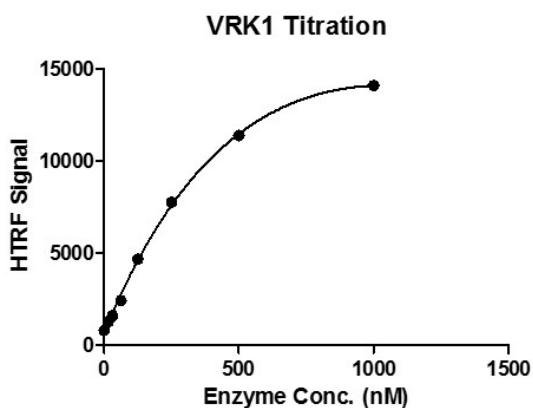


Recombinant VRK1 protein gel

10% SDS-PAGE Coomassie staining

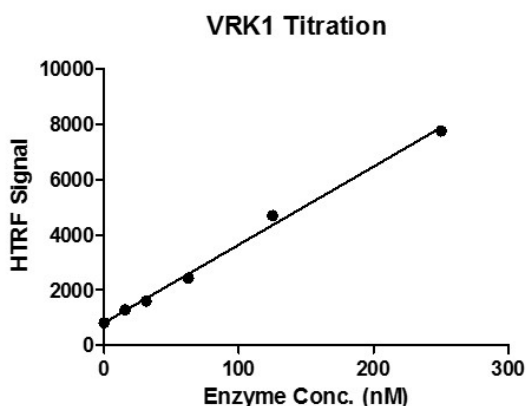
MW: 46.7 kDa

Purity: >90%



HTRF assay for VRK1 activity

STK S1 substrate was incubated with different concentrations of VRK1 protein in a reaction system for 1 hour. The detection reagents were added and incubated with the reactions for 1 hr. All the operations and reactions were performed at room temperature, and HTRF KinASE STK assay was used to detect the enzymatic activity.



HTRF assay for VRK1 activity

STK S1 substrate was incubated with different concentrations of VRK1 protein in a reaction system for 1 hour. The detection reagents were added and incubated with the reactions for 1 hr. All the operations and reactions were performed at room temperature, and HTRF KinASE STK assay was used to detect the enzymatic activity.