Recombinant PLK3 protein (His tag)

Catalog Number	548235
Synonyms	Cytokine-inducible serine/threonine-protein kinase; FGF-inducible kinase; Polo-like kinase 3; PLK-3; Proliferation-related kinase
Species	Human
Expression System	E. coli
Accession	Q9H4B4
Molecular Weight	Predictes a molecular mass of 26.53 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 27 kDa band.

Product Information

Sequence Region	425-646
Form	Lyophilized powder
Formulation	Lyophilized from sterile PBS, pH 7.4
Purity	>87%, by SDS-PAGE with Coomassie Brilliant Blue staining.
Endotoxin	Not tested.
Activity	Not tested.
Stability	Samples are stable for up to twelve months from date of receipt at -70℃
Protein Construction	DNA encoding 425-646 aa (Q9H4B4) were fused with 6His tag.

Storage & Handling

Reconstitution	Reconstitute at 0.25 μg/μl in sterile water for short-term storage. Reconstitution with 50% glycerol solution is recommended for longer term storage (see Stability and Storage for more details). If a different concentration is needed for your purposes please adjust the reconstitution volume as required (please note: the ion concentration of the final solution will vary according to the volume used). Note: Centrifuge vial before opening. When reconstituting, gently pipet and wash down the sides of the vial to ensure full recovery of the protein into solution.
Storage	Store it under sterile conditions at -20℃ to -80℃. It is recommended that the protein be aliquoted for optimal storage. Avoid repeated freeze-thaw cycles.
Shipping	In general, recombinant proteins are provided as lyophilized powder which are shipped at ambient temperature. Bulk packages of recombinant proteins are provided as frozen liquid. They are shipped out with blue ice unless customers require otherwise.

Description

Description	Recombinant Human Serine/threonine-protein kinase PLK3 (EC 2.7.11.21) Fragment (residues 425-646) – a high-purity protein fragment encompassing the complete POLO box 1 and POLO box 2 domains. This product is an essential tool for investigating PLK3's roles in cell cycle regulation, stress response, and protein-protein interactions, providing researchers with a targeted reagent for domain-specific functional studies. Serine/threonine-protein kinase PLK3 is a crucial regulator in cell cycle progression, stress response pathways, and Golgi disassembly. This kinase functions by recognizing and phosphorylating pre-phosphorylated proteins through its POLO box domains, targeting key substrates including p53/TP53, CHEK2, CDC25A, HIF1A, and VRK1. PLK3 is rapidly activated by diverse stress stimuli such as DNA damage, reactive oxygen species, hypoxia, and UV irradiation, where it participates in G1/S and G2/M checkpoint control, apoptosis regulation, and transcriptional modulation. The protein localizes to multiple cellular compartments including cytoplasm, nucleus, nucleolus, Golgi apparatus, and centrosome, with nuclear translocation observed following genotoxic stress. The full-length protein's involvement in both cell cycle control and stress adaptation makes it a significant target for cancer research and cellular signaling studies.