Recombinant CDK9 protein (His tag)

Catalog Number	542381
Synonyms	C-2K; Cell division cycle 2-like protein kinase 4; Cell division protein kinase 9; Serine/threonine-protein kinase PITALRE; Tat-associated kinase complex catalytic subunit
Species	Human
Expression System	E. coli
Accession	P50750
Molecular Weight	Predictes a molecular mass of 40.12 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 40 kDa band.

Product Information

Sequence Region	1-335
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 1-335 aa (P50750) 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 Cyclin-dependent kinase 9 (CDK9) fragment (amino acids 1-335) is a high-purity protein encompassing the complete Protein Kinase domain. This fragment serves as an essential tool for investigating transcriptional regulation, RNA polymerase II phosphorylation, and cell cycle control mechanisms in a defined experimental context. Cyclin-dependent kinase 9 (CDK9) is a crucial serine/threonine-protein kinase in humans that functions as the catalytic subunit of the positive transcription elongation factor b (P-TEFb) complex. CDK9 regulates transcription elongation by phosphorylating the C-terminal domain of RNA polymerase II, facilitating the transition from abortive to productive RNA synthesis. It plays vital roles in cytokine-inducible transcription networks, muscle differentiation through MYOD1 phosphorylation, histone modification integration, and replication stress response. CDK9 is primarily localized in the nucleus, accumulating on chromatin during replication stress, and shows dynamic nucleocytoplasmic shuttling. The full-length protein participates in diverse cellular processes including viral pathogenesis, cardiac myocyte enlargement, and DNA damage response through interactions with various cyclin partners and substrate proteins.