CDK9-CCNT1 Heterodimer Protein, Human (Sf9)

Cat. No.:	HY-P701376
Synonyms:	CDK9; CCNT1; Cyclin-dependent kinase 9; 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; Cyclin-T1; CycT1; Cyclin-T
Species:	Human
Source:	Sf9 insect cells
Accession:	P50750 (M1-F372)&O60563 (M1-K726)
Gene ID:	1025&904
Molecular Weight:	

PROPERTIES

Appearance	Solution.
Formulation	Supplied as a 0.22 μm filtered solution of 50 mM Tris-HCl, pH7.5, 200 mM NaCl, 20% glycerol.
Endotoxin Level	<1 EU/μg, determined by LAL method.
Reconsititution	Please use rapid thawing with running water to thaw the protein.
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	The CDK9ic protein emerges as a central player in the intricate regulation of transcription, orchestrating a diverse range of cellular processes. As a pivotal member of the cyclin-dependent kinase pair (CDK9/cyclin-T) complex, also known as positive transcription elongation factor b (P-TEFb), it facilitates the transition from abortive to productive elongation by phosphorylating the C-terminal domain (CTD) of the large subunit of RNA polymerase II (POLR2A), SUPT5H, and RDBP. This complex, inactive in the 7SK small nuclear ribonucleoprotein (snRNP) complex form, engages in phosphorylation events targeting EP300, MYOD1, RPB1/POLR2A, AR, and the negative elongation factors DSIF and NELFE. Beyond its role in transcription, CDK9-CCNK regulates cytokine-inducible transcription networks, promoting RNA synthesis in genetic programs for cell growth, differentiation, and viral pathogenesis. The complex also plays a critical role in cotranscriptional histone modification, mRNA processing, mRNA export, and a network of chromatin modifications. Moreover, it contributes to genome integrity maintenance, replication stress response, and cardiac myocyte enlargement. The multifaceted activities of CDK9-CCNK underscore its significance in governing diverse cellular functions and molecular pathways.

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

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