

Bioactive

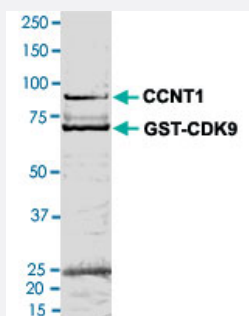
Full-Length

CDK9/CCNT1 (Human) Recombinant Protein

Catalog # P4664

Size 100 ug

Applications



Result of activity analysis

Determination of V_{max} and K_M value for ATP

Assay conditions:

60 mM HEPES-NaOH, pH 7.5

3 mM $MgCl_2$

3 mM $MnCl_2$

3 uM Na-orthovanadate

1.2 mM DTT

50 ug/mL PEG_{20.000}

ATP (variable)

Substrate: RB-CTF, 200 ug/mL

Kinase: 4 ug/mL

Filter binding assay

MSFC membrane (Millipore)

Specification

Product Description	Human CDK9 (NP_001252.1, 1 a.a. - 372 a.a.) full-length recombinant protein, N-terminal GST-HIS ₆ fusion protein with a Thrombin cleavage site and CCNT1 (NP_001231.2, 1 a.a. - 726 a.a.) full-length recombinant protein, N-terminal HIS ₆ fusion protein with a Thrombin cleavage site co-expressed in Sf9 insect cells.
Host	insect
Theoretical MW	GST-CDK9: 72,173 Da HIS-CCNT1: 85,441 Da
Form	Liquid
Preparation Method	Insect cell (Sf9) expression system
Purification	GST-Affinity chromatography
Concentration	0.168 ug/uL
Activity	Specific kinase activity (Pi transfer): 26 pmol/ug x min ATP-KM: 4 uM
Activation	This kinase was not activated by special procedures.
Quality Control Testing	2 ug/lane SDS-PAGE Stained with Coomassie Blue
Storage Buffer	50 mM HEPES, 100 mM NaCl, pH 7.5 (5 mM DTT, 4 mM reduced glutathione, 20% glycerol).
Storage Instruction	Store at -80°C. Aliquot to avoid repeated freezing and thawing. For complete recovery, mix well and spin before use. Product must not be stored in diluted solutions, aliquots below 10 uL are not advisable.
Note	Result of activity analysis Determination of V _{max} and K _M value for ATP Assay conditions: 60 mM HEPES-NaOH, pH 7.5 3 mM MgCl ₂ 3 mM MnCl ₂ 3 uM Na-orthovanadate 1.2 mM DTT 50 ug/mL PEG _{20,000} ATP (variable) Substrate: RB-CTF, 200 ug/mL Kinase: 4 ug/mL Filter binding assay MSFC membrane (Millipore)

Applications

- Functional Study
- SDS-PAGE

Gene Info — CCNT1

Entrez GeneID [904](#)

Protein Accession# [NP_001252.1 \(Gene ID : 1025\); NP_001231.2 \(Gene ID : 904\)](#)

Gene Name CCNT1

Gene Alias CCNT, CYCT1

Gene Description cyclin T1

Omim ID [602506](#)

Gene Ontology [Hyperlink](#)

Gene Summary

The protein encoded by this gene belongs to the highly conserved cyclin family, whose members are characterized by a dramatic periodicity in protein abundance through the cell cycle. Cyclins function as regulators of CDK kinases. Different cyclins exhibit distinct expression and degradation patterns which contribute to the temporal coordination of each mitotic event. This cyclin tightly associates with CDK9 kinase, and was found to be a major subunit of the transcription elongation factor p-TEFb. The kinase complex containing this cyclin and the elongation factor can interact with, and act as a cofactor of human immunodeficiency virus type 1 (HIV-1) Tat protein, and was shown to be both necessary and sufficient for full activation of viral transcription. This cyclin and its kinase partner were also found to be involved in the phosphorylation and regulation of the carboxy-terminal domain (CTD) of the largest RNA polymerase II subunit. [provided by RefSeq]

Other Designations CDK9-associated C-type protein|cyclin C-related protein|cyclin T1b|subunit of positive elongation transcription factor b

Gene Info — CDK9

Entrez GeneID [1025](#)

Protein Accession# [NP_001252.1 \(Gene ID : 1025\); NP_001231.2 \(Gene ID : 904\)](#)

Gene Name CDK9

Gene Alias C-2k, CDC2L4, CTK1, PITALRE, TAK

Gene Description cyclin-dependent kinase 9

Omim ID [603251](#)

Gene Ontology [Hyperlink](#)

Gene Summary

The protein encoded by this gene is a member of the cyclin-dependent protein kinase (CDK) family. CDK family members are highly similar to the gene products of *S. cerevisiae* cdc28, and *S. pombe* cdc2, and known as important cell cycle regulators. This kinase was found to be a component of the multiprotein complex TAK/P-TEFb, which is an elongation factor for RNA polymerase II-directed transcription and functions by phosphorylating the C-terminal domain of the largest subunit of RNA polymerase II. This protein forms a complex with and is regulated by its regulatory subunit cyclin T or cyclin K. HIV-1 Tat protein was found to interact with this protein and cyclin T, which suggested a possible involvement of this protein in AIDS. [provided by RefSeq]

Other Designations CDC2-related kinase|OTTHUMP00000022198|cell division protein kinase 9|serine/threonine protein kinase PITALRE

Disease

- [Disease Progression](#)
- [Disease Susceptibility](#)
- [HIV Infections](#)