

CDK8-CCNC-MED12 Protein, Human (Sf9, GST, FLAG, His)

Cat. No.:	HY-P701373
Synonyms:	CDK8; CCNC; MED12; Cyclin-dependent kinase 8; Cell division protein kinase 8; Mediator complex subunit CDK8; Mediator of RNA polymerase II transcription subunit CDK8; Protein kinase K35; Cyclin-C; SRB11 homolog; hSRB11; Mediator of RNA polymerase II transcription subunit 12; Activator-recruited cofactor 240 kDa component; ARC240; CAG repeat protein 45; Mediator complex subunit 12; OPA-containing protein; Thyroid hormone receptor-associated protein complex 230 kDa component; Trap230; Trinucleotide repeat-containing gene 11 protein
Species:	Human
Source:	Sf9 insect cells
Accession:	P49336-1 (M1-Y464)&P24863-1 (M1-S283)&Q93074-1 (M1-D100)
Gene ID:	1024&892&9968
Molecular Weight:	79.8 kDa&36 kDa&12.2 kDa

PROPERTIES

Biological Activity	The activity was measured by off-chip mobility shift assay(MSA). The enzyme was incubated with fluorescence-labeled substrate and Mg(or Mn)/ATP. The phosphorylated and unphosphorylated substrates were separated and detected by MSA device. The Km of CDK8-CCNC-MED12 for its substrate is 19 μ M.
Appearance	Solution.
Formulation	Supplied as a 0.2 μ m filtered solution of 20 mM HEPES (pH 7.5), 200 mM NaCl, 5% glycerol, 1 mM DTT.
Endotoxin Level	<1 EU/ μ g, determined by LAL method.
Reconstitution	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 CDK8-CCNC-MED12 protein is a crucial component of the Mediator complex, a coactivator integral to the regulation of gene transcription for nearly all RNA polymerase II-dependent genes. As part of the Mediator complex, it acts as a bridge, conveying information from gene-specific regulatory proteins to the basal RNA polymerase II transcription machinery. This complex is recruited to promoters through direct interactions with regulatory proteins, serving as a scaffold for the assembly of a functional pre-initiation complex with RNA polymerase II and general transcription factors. CDK8-CCNC-MED12 exerts its regulatory functions by phosphorylating the C-terminal domain (CTD) of the large subunit of RNA polymerase II, potentially inhibiting the formation of a transcription initiation complex. Furthermore, it phosphorylates CCNH, leading to the down-regulation of the TFIIF complex and subsequent transcriptional repression. Notably, CDK8-
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CCNC-MED12 is recruited through interaction with MAML1, contributing to the hyperphosphorylation of the intracellular domain of NOTCH and facilitating its degradation. These multifaceted roles underscore the significance of CDK8-CCNC-MED12 in orchestrating the intricate processes of gene transcription regulation.

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

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