CDK6-CCND3 Heterodimer Protein, Human (Sf9, GST, His)

Cat. No.:	HY-P701370
Synonyms:	CDK6; CCND3; Cyclin-dependent kinase 6; Cell division protein kinase 6; Serine/threonine-protein kinase PLSTIRE; G1/S-specific cyclin-D3
Species:	Human
Source:	Sf9 insect cells
Accession:	Q00534 (M1-A326)&P30281 (M1-L292)
Gene ID:	1021&896
Molecular Weight:	63.5 kDa&35 kDa

PROPERTIES

Biological Activity	The activity was measured by off-chip mobility shift assay(MSA). The enzyme was incubated with fluorecence-labeled substrate and Mg(or Mn)/ATP. The phosphorylated and unphosphorylated substrates were separated and detected by MSA device. The Km of CDK6-CCND3 for its substrate is 200 μM.
Appearance	Solution.
Formulation	Supplied as a 0.22 μm filtered solution of 50 mM Tris-HCl, pH 7.5, 150 mM NaCl, 5% 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 CDK6ic complex, a serine/threonine-protein kinase, assumes a pivotal role in cell cycle regulation and differentiation, specifically promoting the G1/S transition. This complex exerts its regulatory influence by phosphorylating critical substrates such as pRB/RB1 and NPM1. During interphase, the CDK6 interacts with D-type G1 cyclins, forming an active pRB/RB1 kinase and governing entry into the cell cycle. Notably, this complex is intricately involved in both the initiation and maintenance of cell cycle exit during cellular differentiation, acting as a negative regulator of cell differentiation while remaining essential for the proliferation of specific cell types, including erythroid and hematopoietic cells. Its indispensable role extends to thymocyte development and the promotion of newborn neuron production. Furthermore, in astrocytes, the CDK6-CCND1 complex facilitates changes in gene expression patterns, modulates the actin cytoskeleton, and enhances motility during cell differentiation. Importantly, it exerts regulatory control over myeloid differentiation and delays senescence, highlighting its diverse and crucial functions in cellular processes. Additionally, the complex plays a role in promoting beta-cell proliferation in the pancreatic islets of Langerhans and may contribute to centrosome organization during various cell cycle phases.

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

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