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CCNT1 Antibody (Center)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP10669c

Product Information

Application	WB, FC, E
Primary Accession	O60563
Other Accession	NP_001231
Reactivity	Human, Mouse
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB19562
Calculated MW	80685
Antigen Region	253-281

Additional Information

Gene ID	904
Other Names	Cyclin-T1, CycT1, Cyclin-T, CCNT1
Target/Specificity	This CCNT1 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 253-281 amino acids from the Central region of human CCNT1.
Dilution	WB~~1:1000 FC~~1:10~50 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.05% (V/V) Proclin 300. This antibody is purified through a protein A column, followed by peptide affinity purification.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	CCNT1 Antibody (Center) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	CCNT1
Function	Regulatory subunit of the cyclin-dependent kinase pair (CDK9/cyclin-T1) complex, also called positive transcription elongation factor B (P-TEFb), which facilitates the transition from abortive to productive elongation by phosphorylating the CTD (C-terminal domain) of the large subunit of RNA

	polymerase II (RNA Pol II) (PubMed:16109376, PubMed:16109377, PubMed:30134174, PubMed:35393539). Required to activate the protein kinase activity of CDK9: acts by mediating formation of liquid-liquid phase separation (LLPS) that enhances binding of P-TEFb to the CTD of RNA Pol II (PubMed:29849146, PubMed:35393539).
Cellular Location	Nucleus
Tissue Location	Ubiquitously expressed.

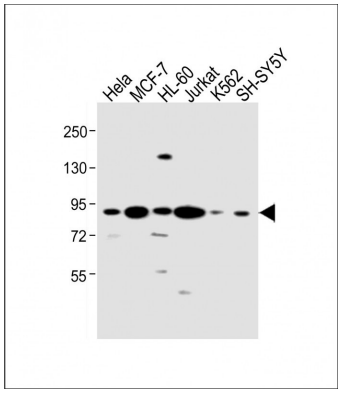
Background

CCNT1 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.

References

Moiola, C., et al. Cell Cycle 9(15):3119-3126(2010)
Schonichen, A., et al. Biochemistry 49(14):3083-3091(2010)
Czudnochowski, N., et al. J. Mol. Biol. 395(1):28-41(2010)
Kapasi, A.J., et al. J. Virol. 83(11):5904-5917(2009)
Cho, S., et al. EMBO J. 28(10):1407-1417(2009)

Images



All lanes : Anti-CCNT1 Antibody (Center) at 1:1000 dilution Lane 1: Hela whole cell lysate Lane 2: MCF-7 whole cell lysate Lane 3: HL-60 whole cell lysate Lane 4: Jurkat whole cell lysate Lane 5: K562 whole cell lysate Lane 6: SH-SY5Y whole cell lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 81 kDa Blocking/Dilution buffer: 5% NFDM/TBST.

Citations

- Low expression of BEX1 predicts poor prognosis in patients with esophageal squamous cell cancer.