Revision 1

Store at -20C

#8744

Cyclin T1 Antibody

Cell Signaling TECHNOLOGY®

Orders: 877-616-CELL (2355)
orders@cellsignal.com

Support: 877-678-TECH (8324)

Web: info@cellsignal.com
cellsignal.com

3 Trask Lane | Danvers | Massachusetts | 01923 | USA

For Research Use Only. Not for Use in Diagnostic Procedures.

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W	H	Endogenous	81	Rabbit	#O60563	904

Product Usage Information

Application	Dilution
Western Blotting	1:1000

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at –20°C. Do not aliquot the antibody.

Specificity/Sensitivity

Cyclin T1 Antibody recognizes endogenous levels of total Cyclin T1 protein. This antibody also cross-reacts with a 50 kDa protein of unknown origin in some cell lines.

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Gly348 of human Cyclin T1 protein. Antibodies are purified by protein A and peptide affinity chromatography.

Background

Positive transcription elongation factor (P-TEFb) is a heterodimer composed of cyclin T proteins and CDK9. P-TEFb plays a critical role in the transition of the RNA polymerase II (RNAPII) machinery from transcription initiation to elongation (1). At some genes during transcription initiation, RNAPII moves approximately 50 nucleotides away from the transcription start site into the gene where it then pauses and awaits signaling for the formation of a productive transcription elongation complex (1,2). The release of this promoter proximal pausing of RNAPII is signaled by phosphorylation of the C-terminal domain (CTD) within the largest subunit of RNAPII at Ser2 of the heptapeptide repeat sequence by P-TEFb (3). This phosphorylation event is important for the recruitment of mRNA processing factors and chromatin modifiers that are necessary for proper gene expression (4,5). P-TEFb also promotes transcription elongation by phosphorylating DSIF (DRB-induced stimulating factor) and NELF (negative elongation factor), two negative elongation factors that retain RNAPII at the promoter proximal region of genes to initiate transcription elongation (6,7).

Background References

1. Cho, S. et al. (2010) *Cell Cycle* 9, 1697-705.
2. Saunders, A. et al. (2006) *Nat Rev Mol Cell Biol* 7, 557-67.
3. Buratowski, S. (2009) *Mol Cell* 36, 541-6.
4. Lenasi, T. and Barboric, M. (2010) *RNA Biol* 7, 145-50.
5. Pirngruber, J. et al. (2009) *Cell Cycle* 8, 3636-42.
6. Wada, T. et al. (1998) *EMBO J* 17, 7395-403.
7. Yamada, T. et al. (2006) *Mol Cell* 21, 227-37.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v nonfat dry milk, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

W: Western Blotting

Cross-Reactivity Key

H: Human

Trademarks and Patents

Limited Uses

force or effect.

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