Revision 6

Store at -20C

#81464

Cyclin T1 (D1B6G) Rabbit mAb

Cell Signaling TECHNOLOGY®

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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W, IP, ChIP, C&R, C&T	H M R Mk	Endogenous	81	Rabbit IgG	#O60563	904

Product Usage Information

For optimal ChIP results, use 10 µl of antibody and 10 µg of chromatin (approximately 4 x 10^6 cells) per IP. This antibody has been validated using SimpleChIP® Enzymatic Chromatin IP Kits.

The CUT&RUN dilution was determined using CUT&RUN Assay Kit #86652.

The CUT&Tag dilution was determined using CUT&Tag Assay Kit #77552.

Application	Dilution
Western Blotting	1:1000
Immunoprecipitation	1:100
Chromatin IP	1:50
CUT&RUN	1:50
CUT&Tag	1:50

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at –20°C. Do not aliquot the antibody.

Specificity/Sensitivity

Cyclin T1 (D1B6G) Rabbit mAb recognizes endogenous levels of total cyclin T1 protein.

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Gly642 of human cyclin T1 protein.

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 **IP:** Immunoprecipitation **ChIP:** Chromatin IP **C&R:** CUT&RUN **C&T:** CUT&Tag

Cross-Reactivity Key

H: Human **M:** Mouse **R:** Rat **Mk:** Monkey

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