

**ELL (D7N6U) Rabbit mAb**

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

<b>Applications:</b> W, IP, IF-IC, ChIP, ChIP-seq	<b>Reactivity:</b> H M R	<b>Sensitivity:</b> Endogenous	<b>MW (kDa):</b> 70	<b>Source/Isotype:</b> Rabbit IgG	<b>UniProt ID:</b> #P55199	<b>Entrez-Gene Id:</b> 8178
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**Product Usage Information**

For optimal ChIP and ChIP-seq results, use 5 µl of antibody and 10 µg of chromatin (approximately 4 x 10<sup>6</sup> cells) per IP. This antibody has been validated using SimpleChIP<sup>®</sup> Enzymatic Chromatin IP Kits.

<b>Application</b>	<b>Dilution</b>
Western Blotting	1:1000
Immunoprecipitation	1:100
Immunofluorescence (Immunocytochemistry)	1:1600
Chromatin IP	1:100
Chromatin IP-seq	1:100

**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**

ELL (D7N6U) Rabbit mAb recognizes endogenous levels of total ELL protein.

**Species predicted to react based on 100% sequence homology**

Bovine, Dog, Horse

**Source / Purification**

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Asp399 of human ELL protein.

**Background**

The super elongation complex (SEC) plays a critical role in regulating RNA polymerase II (RNAPII) transcription elongation (1). The SEC is composed of AFF4, AFF1/AF4, MLLT3/AF9, and MLLT1/ENL proteins. The pathogenesis of mixed lineage leukemia is often associated with translocations of the SEC subunits joined to the histone H3 Lys4 methyltransferase mixed lineage leukemia (*MLL*) gene (1-4). The SEC has been found to contain RNAPII elongation factors eleven-nineteen lysine-rich leukemia (ELL), ELL2, and ELL3, along with the associated factors EAF1 and EAF2, which can increase the catalytic rate of RNAPII transcription *in vitro*, (1,2,5-7). The SEC positive transcription elongation factor b (P-TEFb) phosphorylates the carboxy-terminal domain within the largest subunit of RNAP II at Ser2 of the heptapeptide repeat. The SEC negative transcription elongation factors, DRB-induced stimulating factor (DSIF) and negative elongation factor (NELF), signal the transition from transcription initiation and pausing to productive transcription elongation (2,8-10). The chromosomal translocation of *MLL* with the members of the SEC leads to SEC recruitment to *MLL* regulated genes, such as the highly developmentally regulated *HOX* genes, implicating the misregulation and overexpression of these genes as underlying contributors to leukemogenesis (1,2,9,11).

**Background References**

1. Mohan, M. et al. (2010) *Nat Rev Cancer* 10, 721-8.
2. Lin, C. et al. (2010) *Mol Cell* 37, 429-37.
3. Drexler, H.G. et al. (2004) *Leukemia* 18, 227-32.
4. Smith, E. et al. (2011) *Genes Dev* 25, 661-72.
5. Shilatifard, A. et al. (1996) *Science* 271, 1873-6.
6. Shilatifard, A. et al. (1997) *Proc Natl Acad Sci U S A* 94, 3639-43.
7. Miller, T. et al. (2000) *J Biol Chem* 275, 32052-6.
8. Lin, C. et al. (2011) *Genes Dev* 25, 1486-98.
9. Yokoyama, A. et al. (2010) *Cancer Cell* 17, 198-212.
10. Cho, S. et al. (2010) *Cell Cycle* 9, 1697-705.
11. Shah, N. and Sukumar, S. (2010) *Nat Rev Cancer* 10, 361-71.

**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 BSA, 1X TBS, 0.1% Tween@ 20 at 4°C with gentle shaking, overnight.

**Applications Key**

**W:** Western Blotting **IP:** Immunoprecipitation **IF-IC:** Immunofluorescence (Immunocytochemistry)  
**ChIP:** Chromatin IP **ChIP-seq:** Chromatin IP-seq

**Cross-Reactivity Key**

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

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