#12141 Store at -20°C

MLLT1/ENL Antibody

☑ 100 µl
(10 western blots)

Cell Signaling TECHNOLOGY®

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New 12/12

For Research Use Only. Not For Use In Diagnostic Procedures.

Entrez-Gene ID #4298
Swiss-Prot Acc. #Q03111

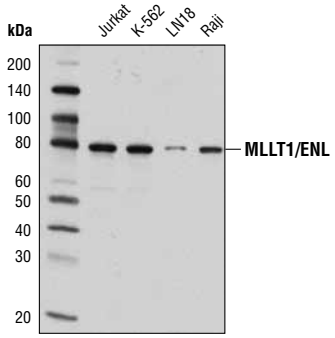
Applications	Species Cross-Reactivity*	Molecular Wt.	Source
W Endogenous	H	80 kDa	Rabbit**

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 C-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).

MLL translocated to 1/eleven-nineteen-leukemia (MLLT1/ENL) is also found as part of the histone H3 Lys79 methyltransferase disruptor of telomeric silencing-like (Dot1L) complex that has been suggested to play a role in transcription elongation. This complex regulates the expression of genes, such as the Wnt-signaling pathway target genes that control cell proliferation and differentiation during development (12,13).

Specificity/Sensitivity: MLLT1/ENL Antibody recognizes endogenous levels of total MLLT1/ENL protein.

Source/Purification: Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Ala343 of human MLLT1/ENL protein. Antibodies are purified by protein A and peptide affinity chromatography.



Western blot analysis of extracts from various cell lines using MLLT1/ENL Antibody.

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

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.*

***Species cross-reactivity is determined by western blot.**

****Anti-rabbit secondary antibodies must be used to detect this antibody.**

Recommended Antibody Dilutions:
Western blotting 1:1000

For product specific protocols please see the web page for this product at www.cellsignal.com.

Please visit www.cellsignal.com for a complete listing of recommended complementary products.

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.
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(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.
(12) Mohan, M. et al. (2010) *Genes Dev* 24, 574-89.
(13) Nguyen, A.T. and Zhang, Y. (2011) *Genes Dev* 25, 1345-58.

Applications Key: **W**—Western **IP**—Immunoprecipitation **IHC**—Immunohistochemistry **ChIP**—Chromatin Immunoprecipitation **IF**—Immunofluorescence **F**—Flow cytometry **E-P**—ELISA-Peptide
Species Cross-Reactivity Key: **H**—human **M**—mouse **R**—rat **Hm**—hamster **Mk**—monkey **Mi**—mink **C**—chicken **Dm**—D. melanogaster **X**—Xenopus **Z**—zebrafish **B**—bovine **Dg**—dog **Pg**—pig **Sc**—S. cerevisiae **Ce**—C. elegans **Hr**—horse **All**—all species expected Species enclosed in parentheses are predicted to react based on 100% homology.