

MLLT1/ENL Antibody

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

Applications: W	Reactivity: H	Sensitivity: Endogenous	MW (kDa): 80	Source/Isotype: Rabbit	UniProt ID: #Q03111	Entrez-Gene Id: 4298
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Product Usage Information**Application**

Western Blotting

Dilution

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

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.

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).

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).

Background References

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- Nguyen, A.T. and Zhang, Y. (2011) *Genes Dev* 25, 1345-58.

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

Cross-Reactivity Key**H:** Human**Trademarks and Patents**

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