MLL1/KMT2A CUTANA™ CUT&RUN Antibody

Catalog No. 13-2004
Lot No. 21013001-38
Pack Size 100 µL

Type Monoclonal [BL-175-7E8] **Target Size** 431 kDa **Reactivity** Human
Host Rabbit **Format** Pur. IgG **Applications** CUT&RUN, WB, IP

Product Description:

This antibody meets EpiCypher's "CUTANA Compatible" criteria for performance in Cleavage Under Targets and Release Using Nuclease (CUT&RUN) and/or Cleavage Under Targets and Tagmentation (CUT&Tag) approaches to genomic mapping. Every lot of a CUTANA Compatible antibody is tested in the indicated CUTANA approach using EpiCypher optimized protocols (EpiCypher.com/resources/protocols) and determined to yield peaks that show a genomic distribution pattern consistent with reported function(s) of the target protein. MLL1 antibody produces CUT&RUN peaks above background (**Figure 1**) that overlap with H3K4me3 (**Figures 1-2**), consistent with its known role as the catalytic subunit of the MLL1/MLL histone methyltransferase complex.

Immunogen:

A synthetic peptide corresponding to human MLL1 amino acids 720 to 780.

Formulation:

Purified recombinant monoclonal antibody (1.0 mg/mL) in borate buffered saline (BBS) pH 8.2 with 0.09% sodium azide.

Storage and Stability:

Stable for 1 year at 4°C from date of receipt.

Application Notes:

Recommended Dilutions:

CUT&RUN: 0.5 µg
WB: 1:1,000
IP: 10 µL / 0.5 mg lysate

References:

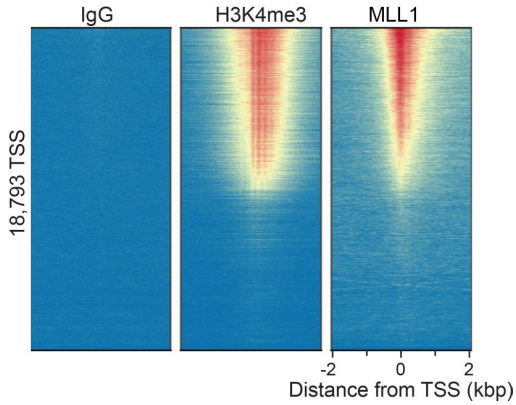

Figure 1: MLL1 enrichment at annotated transcription start sites (TSSs) in CUT&RUN. CUT&RUN was performed using 500,000 K562 cells with MLL1 and control antibodies (0.5 µg each; IgG negative control, EpiCypher 13-0042; H3K4me3 positive control, EpiCypher 13-0041). Sequencing reads were aligned to annotated TSSs (+/- 2 kbp) of 18,793 genes. High, medium, and low signal is ranked by intensity (top to bottom) and reflected by red, yellow, and blue colors, respectively. All rows aligned relative to MLL1.

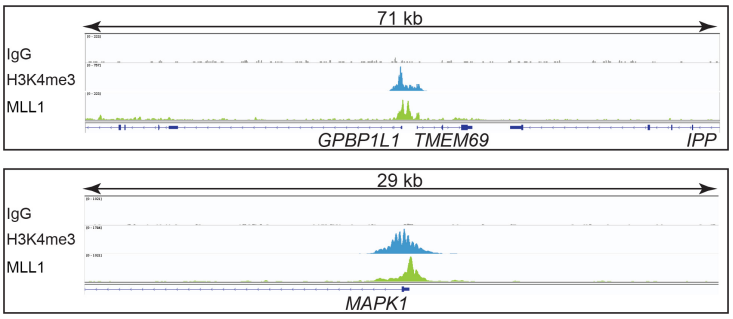

Figure 2: MLL1 CUT&RUN peaks and functional overlap. Two representative gene loci from the CUT&RUN data in Figure 1 are shown. MLL1 peaks overlap with H3K4me3 CUT&RUN peaks (EpiCypher 13-0041), consistent with the reported function of MLL1 as an H3K4 histone methyltransferase. Images were generated using the Integrative Genomics Viewer (Broad Institute).

Applications Key: ChIP: Chromatin immunoprecipitation; CUT&RUN: Cleavage Under Targets and Release Using Nuclease; CUT&Tag: Cleavage Under Targets and Tagmentation; E: ELISA; FACS: Flow cytometry; ICC: Immunocytochemistry; IF: Immunofluorescence; IHC: Immunohistochemistry; IP: Immunoprecipitation; L: Luminex; WB: Western Blot. **Reactivity Key**: B: Bovine; Ce: *C. elegans*; Ch: Chicken; Dm: *Drosophila*; Eu: Eukaryote; H: Human; M: Mouse; Ma: Mammal; R: Rat; Sc: *S.cerevesiae*; Sp: *S. pombe*; WR: Wide Range (predicted); X: Xenopus; Z: Zebrafish

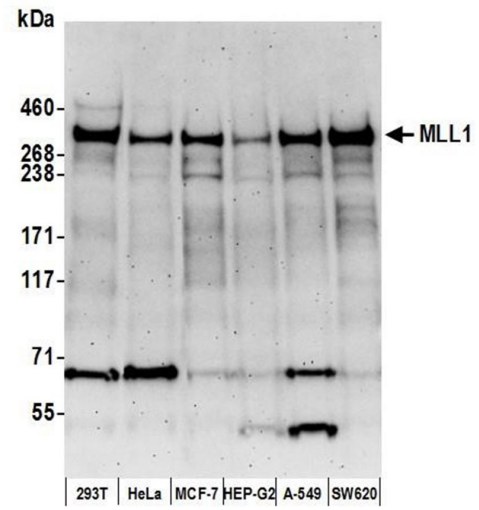

Figure 3: Western blot detection of human MLL1. Whole cell lysates were isolated from HEK293T, HeLa, MCF-7, HEP-G2, A-549, and SW620 cells using NETN lysis buffer. Fifty micrograms (50 µg) of lysate were loaded onto SDS-PAGE gel and analyzed under standard western blot conditions using MLL1 antibody (1:1,000 dilution).

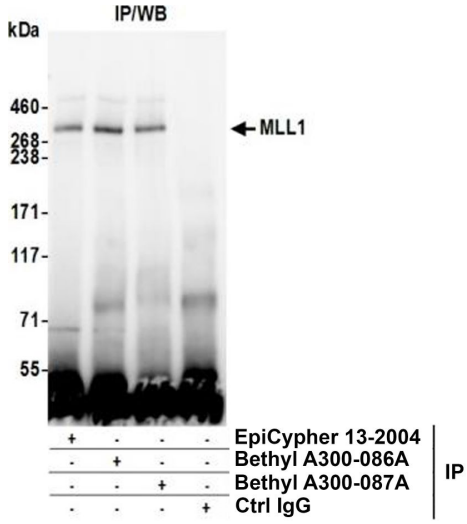

Figure 4: Immunoprecipitation of human MLL1. EpiCypher MLL1 antibody (10 µL) was used to immunoprecipitate whole cell lysates isolated from HEK293T cells using NETN lysis buffer (0.5 mg per IP). A negative control IgG antibody and positive control antibodies to various MLL1 epitopes (Bethyl Laboratories) were also used to demonstrate specificity of the IP. Immunoprecipitates were loaded onto SDS-PAGE gel (20% of IP loaded) and probed via western blot with EpiCypher MLL1 antibody (1:1,000 dilution).

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