

**AEBP2 (D7C6X) Rabbit mAb**

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<b>Applications:</b> W, IP, ChIP, ChIP-seq, C&R	<b>Reactivity:</b> H M R Mk	<b>Sensitivity:</b> Endogenous	<b>MW (kDa):</b> 70, 28	<b>Source/Isotype:</b> Rabbit IgG	<b>UniProt ID:</b> #Q6ZN18	<b>Entrez-Gene Id:</b> 121536
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**Product Usage Information**

For optimal ChIP and ChIP-seq results, use 20 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.

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

<b>Application</b>	<b>Dilution</b>
Western Blotting	1:1000
Immunoprecipitation	1:50
Chromatin IP	1:25
Chromatin IP-seq	1:25
CUT&RUN	1:25

**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**

AEBP2 (D7C6X) Rabbit mAb recognizes endogenous levels of total AEBP2 protein.

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

Hamster, Chicken, Bovine

**Source / Purification**

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Leu345 of human AEBP2 protein.

**Background**

Polycomb group (PcG) proteins contribute to the maintenance of cell identity, stem cell self-renewal, cell cycle regulation, and oncogenesis by maintaining the silenced state of genes that promote cell lineage specification, cell death, and cell-cycle arrest (1-4). PcG proteins exist in two complexes that cooperate to maintain long-term gene silencing through epigenetic chromatin modifications. The PRC2 (EZH2-EED) complex is recruited to genes by DNA-binding transcription factors and methylates histone H3 on Lys27. Methylation of Lys27 facilitates the recruitment of the PRC1 complex, which ubiquitinylates histone H2A on Lys119 (5). Suppressor of Zeste 12 (SUZ12) is an obligate component of the PRC2 complex, which together with EZH2 and EED is absolutely required for histone methyltransferase activity of the protein complex (6). The zinc finger AE binding protein 2 (AEBP2) is another integral component of the PRC2 complex. Addition of AEBP2 to the PRC2 core complex (EZH2-EED-SUZ12) enhances histone H3 Lys27 methyltransferase activity on nucleosomal substrates *in vitro*, which may be mediated in part by three AEBP2 DNA-binding zinc finger domains (5,7). AEBP2-mediated enhancement of enzymatic activity is greater on nucleosomal substrates that contain mono-ubiquitinated histone H2A Lys119, which suggests that AEBP2 may target PRC2 complexes *in vivo* through binding to DNA and mono-ubiquitinated histone H2A Lys119 (8).

**Background References**

1. Boyer, L.A. et al. (2006) *Nature* 441, 349-53.
2. Cao, R. et al. (2002) *Science* 298, 1039-43.
3. Müller, J. et al. (2002) *Cell* 111, 197-208.
4. Lee, T.I. et al. (2006) *Cell* 125, 301-13.
5. Cao, R. and Zhang, Y. (2004) *Mol Cell* 15, 57-67.
6. Wang, H. et al. (2004) *Nature* 431, 873-8.
7. Kim, H. et al. (2009) *Nucleic Acids Res* 37, 2940-50.
8. Kalb, R. et al. (2014) *Nat Struct Mol Biol* 21, 569-71.

**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 **ChIP:** Chromatin IP **ChIP-seq:** Chromatin IP-seq **C&R:** CUT&RUN

**Cross-Reactivity Key**

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

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