Revision 4

Store at -20C

#93801

PHF8 (E6K3Y) Rabbit mAb

Cell Signaling TECHNOLOGY®

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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W, IP, ChIP, ChIP-seq	H M R Mk	Endogenous	135, 140	Rabbit IgG	#Q9UPP1	23133

Product Usage Information

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

Application	Dilution
Western Blotting	1:1000
Immunoprecipitation	1:200
Chromatin IP	1:50
Chromatin IP-seq	1:50

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

PHF8 (E6K3Y) Rabbit mAb recognizes endogenous levels of total PHF8 protein.

Source / Purification

Monoclonal antibody is produced by immunizing animals with recombinant protein containing Phe579 of human PHF8 protein.

Background

PHD finger protein 8 (PHF8) is a histone lysine demethylase that functions as a transcriptional activator by specifically demethylating a number of repressive histone methylation marks: mono- and di-methyl-histone H3 Lys9 (H3K9me1 and H3K9me2), di-methyl-histone H3 Lys27 (H3K27me2) and mono-methyl-histone H4 Lys20 (H4K20me1). PHF8 contains an N-terminal zinc finger-like PHD domain that binds tri-methylated histone H3 Lys4 (H3K4Me3) and a C-terminal jumonji domain that is responsible for the demethylase activity (1). Deletion and point mutations (F279S) in the jumonji domain of PHF8 are associated with the onset of X-linked mental retardation (XLMR). In addition, PHF8 is highly expressed in prostate cancer, laryngeal squamous cell carcinoma, and human non-small-cell lung cancer (NSCLC). Its expression is predictive of poor survival (2-4). Overexpression of PHF8 increases cell proliferation and cell motility, while silencing of PHF8 reduces cell proliferation, migration, and invasion (4).

Background References

1. Horton, J.R. et al. (2010) *Nat Struct Mol Biol* 17, 38-43.
2. Zhu, G. et al. (2015) *Epigenomics* 7, 143-53.
3. Shen, Y. et al. (2014) *Biochem Biophys Res Commun* 451, 119-25.
4. Björkman, M. et al. (2012) *Oncogene* 31, 3444-56.

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

Cross-Reactivity Key

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

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Limited Uses

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