

**PHF8 (E9R4F) Rabbit mAb**

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

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W, IP, FC-FP, ChIP	H Mk	Endogenous	135, 140	Rabbit IgG	#Q9UFP1	23133

**Product Usage Information**

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

**Application**

Western Blotting  
Immunoprecipitation  
Flow Cytometry (Fixed/Permeabilized)  
Chromatin IP

**Dilution**

1:1000  
1:50  
1:100  
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 (E9R4F) 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**

- Horton, J.R. et al. (2010) *Nat Struct Mol Biol* 17, 38-43.
- Zhu, G. et al. (2015) *Epigenomics* 7, 143-53.
- Shen, Y. et al. (2014) *Biochem Biophys Res Commun* 451, 119-25.
- 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 **FC-FP:** Flow Cytometry (Fixed/Permeabilized) **ChIP:** Chromatin IP

**Cross-Reactivity Key**

**H:** Human **Mk:** Monkey

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