

H3R2me2sK4me2 polyclonal antibody - Classic

Cat. No. C15410294

Type: Polyclonal

Source: Rabbit

Lot #: 001

Size: 50 µg

Concentration: 0.91 µg/µl

Specificity: Human, mouse, *C. elegans*, rat, chicken, *Xenopus*, *Drosophila*, plant

Purity: Affinity purified

Storage: Store at -20°C; for long storage, store at -80°C. Avoid multiple freeze-thaw cycles.

Precautions: This product is for research use only. Not for use in diagnostic or therapeutic procedures.

Applications

	Suggested dilution	Results
ChIP	2-5 µg/million cells	Figure 1
IF	1:100	Figure 2
Western blot	1:500	Figure 3, 4
Immunocytochemistry	1:50	
Dot blot	1:1,000	Figure 5

Target description

Chromatin is the arrangement of DNA and proteins in which chromosomes are formed. Correspondingly, chromatin is formed from nucleosomes, which are comprised of a set of four histone proteins (H2A, H2B, H3, H4) wrapped with DNA. Chromatin is a very dynamic structure in which numerous post-translational modifications work together to activate or repress the availability of DNA to be copied, transcribed, or repaired. These marks decide which DNA will be open and commonly active (euchromatin) or tightly wound to prevent access and activation (heterochromatin). Common histone modifications include methylation of lysine and arginine, acetylation of lysine, phosphorylation of threonine and serine, and sumoylation, biotinylation, and ubiquitylation of lysine. The dimethylation of both arginine 2 (H3R2me2) and lysine 4 (H3K4me2) of H3 are both known marks to have opposing affects. R2me2 maintains transcriptional silence by silencing Set1 mediated K4 methylation, in which K4 methylation is normally associated with active chromatin. The protein arginine methyltransferase PRMT6 can methylate H3R2 in vivo, and overexpression of this enzyme downregulates Hox and Myc dependent genes, both of which are targets of H3K4 methylation.

Results

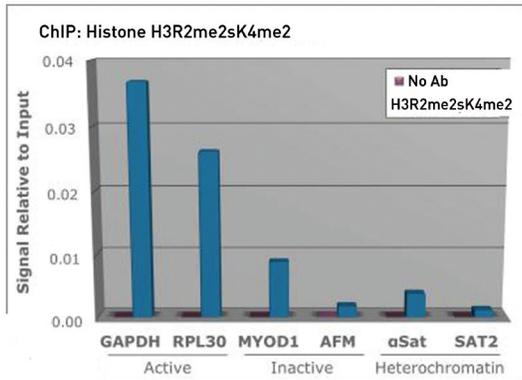


Figure 1. ChIP

Chromatin Immunoprecipitation of H3R2me2sK4me2 antibody. Chromatin from one million formaldehyde cross-linked HeLa cells was used with 2 µg of H3R2me2sK4me2 and 20 µl of magnetic IgG beads per immunoprecipitation. A no antibody (No Ab) control was also used. Immunoprecipitated DNA was quantified using quantitative PCR and normalized to the input chromatin.

Figure 2. Immunofluorescence

Immunofluorescence of H3R2me2sK4me2 antibody. Tissue: HeLa cells. Fixation: 0.5% PFA. Primary antibody used at a 1:100 dilution for 1 h at RT. Secondary antibody: Dylight 488 secondary antibody at 1:10,000 for 45 min at RT. Localization: Histone H3R2me2sK4me2 is nuclear and chromosomal. Staining: Histone H3R2me2sK4me2 is expressed in green, nuclei and alpha-tubulin are counterstained with DAPI (blue) and Dylight 594 (red).

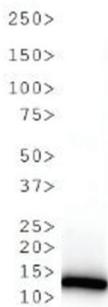
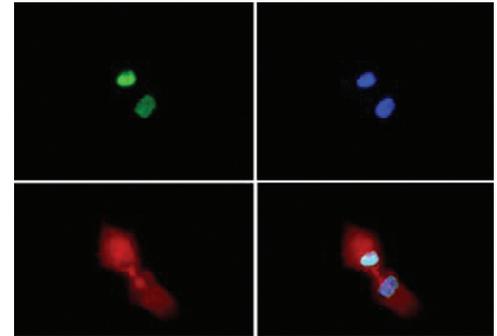


Figure 3. Western Blot

Western Blot of H3R2me2sK4me2 antibody. 30 µg of *C. elegans* embryo cell lysate. Primary antibody used at a 1:500 dilution overnight at 4°C. Secondary antibody: IRDye800™ rabbit secondary antibody at 1:10,000 for 45 min at RT. Predicted/Observed size: ~15 kDa. Other band(s): None.

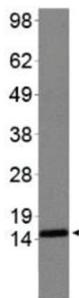


Figure 4. Western Blot

Western Blot of H3R2me2sK4me2 antibody. 30 µg of NIH-3T3 histone extracts. Primary antibody used at 1:500 overnight at 4°C. Secondary antibody: IRDye800™ rabbit secondary antibody at 1:10,000 for 45 min at RT. Predicted/Observed size: ~15 kDa. Other band(s): None.

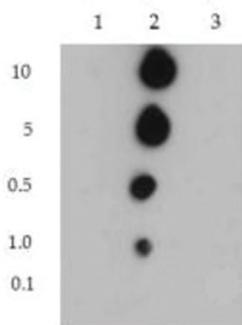


Figure 5. Dot Blot

Dot Blot of H3R2me2sK4me2 antibody. Lane 1: R2me2. Lane 2: R2me2/K4me2. Lane 3: K4me2. Load: 0.1, 1, 0.5, 5, and 10 picomoles of peptide. Primary antibody used at a 1:1,000 dilution for 45 min at 4°C. Secondary antibody: Dylight™488 rabbit secondary antibody at 1:10,000 for 45 min at RT.

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