

Histone H3K4me2 Antibody: SNAP-ChIP® Certified



EpiCypher®

Catalog No. 13-0027
Lot No. 18344001
Pack Size 100 µg

Type Monoclonal **Host** Rabbit
Target Size 15 kDa **Reactivity** H, M, WR
Format Aff. Pur. IgG **Appl.** ChIP, ChIP-Seq, IF,
ICC, WB

Product Description:

This antibody meets EpiCypher's "SNAP-ChIP® Certified" criteria for specificity and efficient target enrichment in a ChIP experiment (<20% cross-reactivity across the panel, >5% recovery of target input). Histone H3 is one of the four proteins that are present in the nucleosome, the basic repeating subunit of chromatin, consisting of 147 base pairs of DNA wrapped around an octamer of core histone proteins (H2A, H2B, H3 and H4). This antibody reacts to H3K4me2 and no cross reactivity with H3K4me1 or H3K4me3, or other lysine methylations in the EpiCypher SNAP-ChIP K-MetStat panel, is detected.

Immunogen:

A synthetic peptide corresponding to histone H3 dimethylated at lysine 4.

Formulation:

Protein A affinity-purified antibody (1 mg/mL) in PBS, with 0.09% sodium azide, 1% BSA, and 50% glycerol.

Storage and Stability:

Stable for 1 year at -20°C from date of receipt.

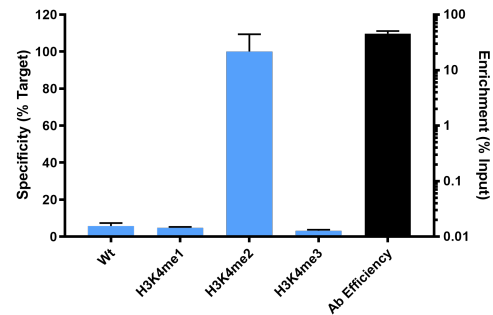
Application Notes:

Recommended usage amounts:

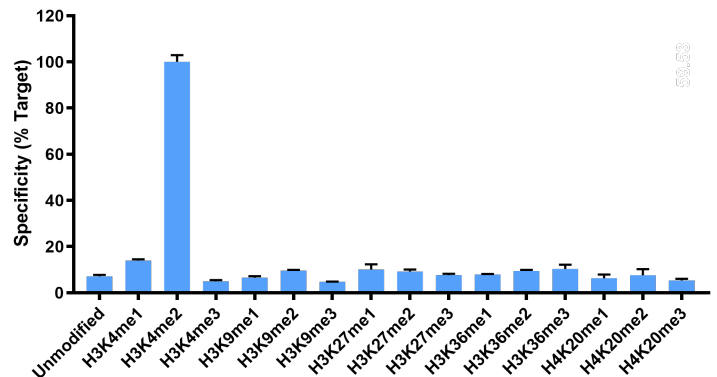
ChIP: 2 - 5 µg per 1x10⁶ cells
IF/ICC: 1 - 2 µg/mL
WB: 0.02 - 0.2 µg/mL

References:

Grzybowski et al (2015) Mol Cell 58:886
Shah et al (2018) Mol Cell 72:162



SNAP-ChIP qPCR Data: Histone H3K4me2 antibody (3 µg) was tested in a native ChIP experiment using chromatin from K-562 cells (~1x10⁶ cells) with the SNAP-ChIP K-MetStat Panel (EpiCypher Catalog No. 19-1001) spiked-in prior to micrococcal nuclease digestion. Specificity (left Y-axis) was determined by qPCR for the DNA barcodes corresponding to modified nucleosomes in the SNAP-ChIP panel (x-axis). Black bar represents antibody efficiency (right y-axis; log scale) and indicates percentage of the target immunoprecipitated relative to input. Error bars represent mean ± SEM in replicate ChIP experiments.



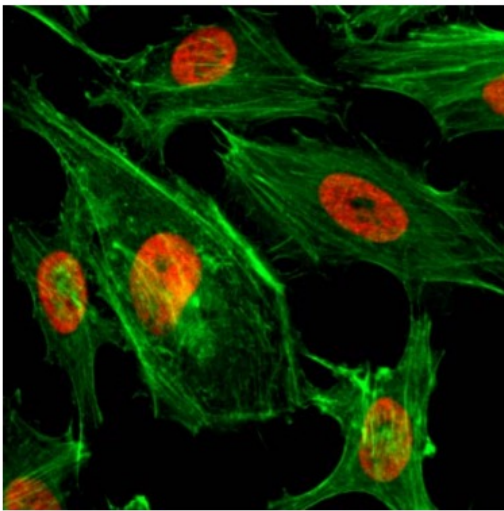
SNAP-ChIP-seq Data: Histone H3K4me2 antibody (5 µg) was tested in a native ChIP experiment using chromatin from K-562 cells (~1x10⁶ cells) with the SNAP-ChIP K-MetStat Panel (EpiCypher Catalog No. 19-1001) spiked-in prior to micrococcal nuclease digestion. Ten nanograms ChIP DNA was subjected to library preparation using the NEBNext® Ultra™ II DNA Library Prep Kit for Illumina®. ChIP libraries were analyzed by 2x150bp paired end sequencing on an Illumina HiSeq 4000. Paired reads were aligned to the SNAP-ChIP barcodes using the alignment algorithm available at <https://www.basepairtech.com/>. Specificity was determined by normalizing the read counts for each barcoded nucleosome IP to the corresponding Input and expressing the data as a percent of the nucleosome containing the target PTM (% Target). Error bars represent mean ± SEM for the duplicate DNA barcodes in a single ChIP experiment.

Applications Key: ChIP-Chromatin IP; E-ELISA; FACS-Flow cytometry; IF-Immunofluorescence; IHC-Immunohistochemistry; ICC-Immunocytochemistry; IP-Immunoprecipitation; WB-Western Blotting

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



Western Blot Data: Recombinant histone H3.3 (Lane 1) and acid extracts of HeLa cells (Lane 2) were blotted onto PVDF and probed with 0.025 µg/mL Histone H3K4me2 Antibody.



Immunocytochemistry: ICC of HeLa cells, using Histone H3K4me2 Antibody (red). Actin filaments have been labeled with fluorescein phalloidin (green).

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