diagenode
A Hologic Company

TECHNICAL DATASHEET

H3T3pK4ac polyclonal antibody - Classic

Cat. No. C15410279
Type: Polyclonal
Source: Rabbit
Lot #: 001
Size: 50 µg
Concentration: 0.57 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	
Immunohistochemistry	1:50	
IF	1:100	Figure 1
Western blot	1:500	Figure 2
Dot blot	1:1,000	Figure 3

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. Phosphorylation of threonine 3 (H3T3p) is a known mitotic marker and modified by the Haspin/Thr3 enzyme, while acetylation of lysine 4 (H3K4ac) on histone 3 is associated with transcriptional activation by Esa1. Methylation that occurs on H3K4 concurrently with acetylation seems to act as an adjuster to the activation effects of acetylation. Shugoshin protein cannot bind to the centromere of active cells when H3K4 is acetylated, which reduces dimethylation, and thus slows meiosis and mitosis. Usually, H3K4ac is a transitional modification, and will become further modified with methylation as transcription progresses, indicating complex transcriptional regulation.

Results

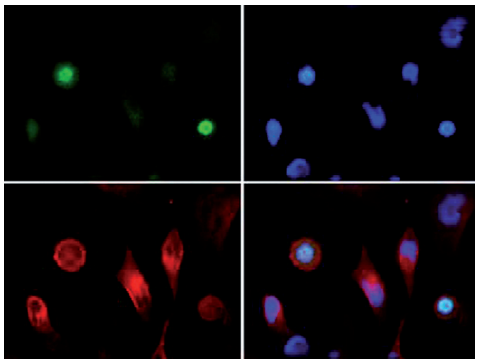

Figure 1. H3T3pK4ac antibody Immunofluorescence results

Immunofluorescence Microscopy of H3T3pK4ac 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 H3T3pK4ac is nuclear and chromosomal. Staining: H3T3pK4ac is expressed in green while the nuclei and aplpha-tubulin were coexpressed with DAPI (blue) and Dylight 550 (red).

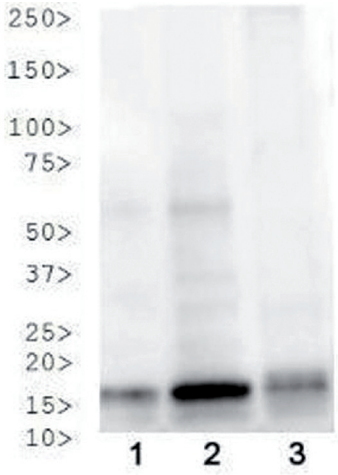

Figure 2. H3T3pK4ac antibody Western blot results

Western Blot of H3T3pK4ac antibody. Lane 1: HeLa histone extracts. Lane 2. NIH-3T3 histone extracts. Lane 3: C. elegans embryo lysate. Load: 30 µg per lane. 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.

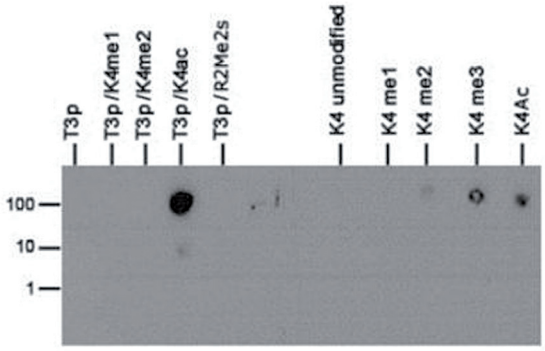

Figure 3. H3T3pK4ac antibody Dot blot results

Dot Blot of H3T3pK4ac antibody. Lane 1: T3p. Lane 2: T3pK4me1. Lane 3: T3pK4me2. Lane 4: T3pK4ac. Lane 5: T3pR2me2s. Lane 6: K4 unmodified. Lane 7: K4me1. Lane 8: K4me2. Lane 9: K4me3. Lane 10: K4ac. Load: 1, 10, and 100 picomoles of peptide. Primary antibody used at 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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