

AbX™

Trimethyl Lys⁴ Histone H3 Rabbit Polyclonal Antibody

Catalog Number A007-100UL



ARBOR
ASSAYS

FEATURES

- Reacts specifically with modified trimethylated Lysine⁴ in Histone H3
- Supplied as a PBS solution
- Applications include Western blotting and ChIP

INTRODUCTION

The nucleosome, made up of four core histone proteins (H2A, H2B, H3 and H4), is the primary building block of chromatin. Histones have been shown to be dynamic proteins, undergoing multiple types of post-translational modifications, including acetylation, phosphorylation, methylation and ubiquitination. Histone methylation is a major determinant for the formation of active and inactive regions of the genome and is crucial for the proper programming of the genome during development. A diverse set of histone lysine methyltransferases has been identified, all but one of which contain a SET domain originally identified in the *Drosophila*, Enhancer of zeste and Trithorax proteins. Lysine methylation occurs primarily on histones H3 (Lys4, 9, 27, 36, 79) and H4 (Lys20) and has been implicated in both transcriptional activation and silencing. Methylation of these lysine residues induces the recruitment of chromatin modifying enzymes containing methyl-lysine binding modules. The discovery in 2004 of the histone demethylase LSD1, followed by the *Jumonji* demethylases JMJD1, JMJD2 and JHDM1 has shown that methylation is a reversible epigenetic process controlling cellular events.

FORM

AbX™ Lys⁴ Trimethyl Lys⁴ Histone H3 Rabbit Polyclonal Antibody is produced as diluted neat rabbit serum.

IMMUNOGEN

Lysine⁴ trimethylated peptide of Histone H3

ANTIBODY SUBTYPE

Diluted rabbit serum

CROSS REACTIVITY

Peptide immunogen sequence is highly conserved. Expected to react with Histone H3 from yeast to mammals.

BUFFER COMPOSITION

Phosphate Buffered Saline at pH 7.2 containing 0.1% tween 20 and 0.09% Kathon preservative

STORAGE

Short Term: 4°C. Extended: Aliquot and freeze at -20°C

ANTIBODY USES

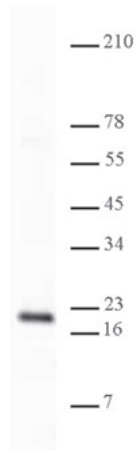
Western blotting and ChIP. Other applications not yet tested.

SUGGESTED DILUTION

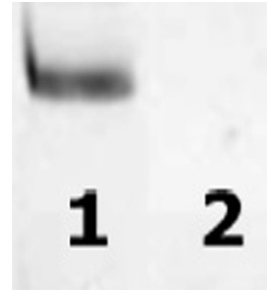
Western blotting: Suggested dilution, 1:100-1:500, ChIP: 30-50 µL

WESTERN BLOTTING

Acid treated HeLa (10 µg) extract was treated with a 1:100 dilution of antibody A007-100UL prior to visualization.

**CHROMATIN IMMUNOPRECIPITATION**

Antibody A007-100UL was used in ChIP with wild type yeast chromatin (lane 1) or a strain with a point mutation in the code for Lysine 4 (lane 2).

**SPECIFICITY DATA**

To confirm the specificity of the antisera a dot blot system was used with amounts of peptides from 10-250 pmoles. Unmodified, monomethylated, dimethylated and trimethylated peptides surrounding the lysine 4 site on Histone H3 were spotted in lanes 1-4 respectively. Lanes 5-8 contained peptides starting at residue 6, with the sequence, TARKSTGGKAPRKQLAT, encompassing the residue at lysine 9 on Histone H3 that is unmodified, monomethylated, dimethylated and trimethylated respectively. Lanes 9-12 contained peptides encompassing the residue at lysine 27 on Histone H3 that is unmodified, monomethylated, dimethylated and trimethylated respectively.

**Related Products**

DetectX® Universal Histone Demethylase Fluorescent Activity Kit
Catalog Number K006-F1

AbX™ Antibodies to Unmodified, Monomethylated, Dimethylated and
Trimethylated Lysine⁴ Histone H3
Catalog Numbers A003, A004, A005, and A006