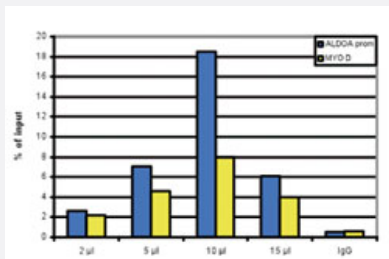


Histone H3 (K4me2) polyclonal antibody

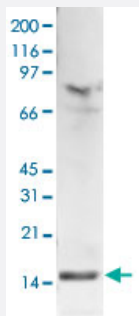
Catalog # PAB31262 Size 100 uL

Applications



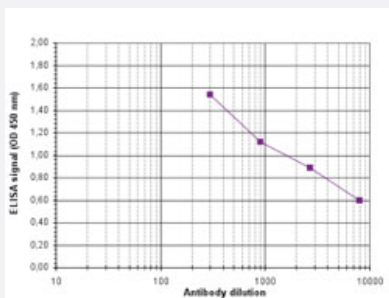
ChIP

ChIP assays were performed using human osteosarcoma (U2OS) cells. A titration of the antibody consisting of 2, 5, 10 or 15 ul per ChIP experiment was analysed. IgG (5 ug/IP) was used as negative IP control. Quantitative PCR was performed with primers for the promoter of the ALDOA gene and for the coding region of the myogenic differentiation gene (MYOD), a gene that is inactive at normal conditions. The figure shows the recovery, expressed as a % of input (the relative amount of immunoprecipitated DNA compared to input DNA after qPCR analysis). These results are in accordance with the observation that dimethylation of K4 at histone H3 is more present at active genes than at silent genes.



Western Blot (Cell lysate)

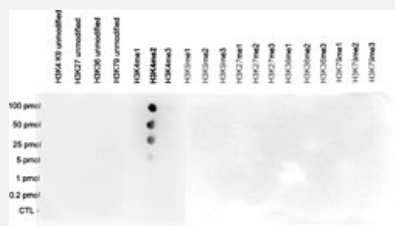
Western Blot (Cell lysate) analysis of 15 ug histone extracts of HeLa cells.



Enzyme-linked Immunoabsorbent Assay

ELISA is a quantitative method used to determine the titer of the antibody using a serial dilution of antibody against Histone H3 (K4me2). The antigen used was a peptide containing the histone modification of interest. By plotting the absorbance against the antibody dilution, the titer of the antibody was estimated to be 1:2600.

Dot Blot



Cross reactivity test using the Histone H3 (K4me2) antibody.

Dot Blot analysis was performed with peptides containing other modifications or unmodified sequences of histone H3. Other histone modifications include monomethylation and trimethylation of the same lysine and monomethylation, dimethylation and trimethylation of lysine 9, 27 and 36 and 79. One hundred to 0.2 pmol of the peptides were spotted on a membrane. The antibody was used at a dilution of 1:20000. The figure shows a high specificity of the antibody for the modification of interest.

Specification

Product Description	Rabbit polyclonal antibody raised against synthetic peptide of Histone H3 (K4me2).
Immunogen	A synthetic peptide (conjugated with KLH) corresponding to Histone H3, dimethylated at lysine 4.
Host	Rabbit
Reactivity	Human, Mouse
Form	Liquid
Purification	Whole antiserum
Recommend Usage	ELISA (1:300) Western Blot (1:750) ChIP (10 ul/CHIP) Dot Blot (1:20000) The optimal working dilution should be determined by the end user.
Storage Buffer	In PBS (0.05% sodium azide).
Storage Instruction	Store at -20°C. For long term storage store at -80°C. Aliquot to avoid repeated freezing and thawing.
Note	This product contains sodium azide: a POISONOUS AND HAZARDOUS SUBSTANCE which should be handled by trained staff only.

Applications

- ChIP

ChIP assays were performed using human osteosarcoma (U2OS) cells. A titration of the antibody consisting of 2, 5, 10 or 15 μ l per ChIP experiment was analysed. IgG (5 μ g/IP) was used as negative IP control. Quantitative PCR was performed with primers for the promoter of the ALDOA gene and for the coding region of the myogenic differentiation gene (MYOD), a gene that is inactive at normal conditions. The figure shows the recovery, expressed as a % of input (the relative amount of immunoprecipitated DNA compared to input DNA after qPCR analysis). These results are in accordance with the observation that dimethylation of K4 at histone H3 is more present at active genes than at silent genes.

- Western Blot (Cell lysate)

Western Blot (Cell lysate) analysis of 15 μ g histone extracts of HeLa cells.

- Enzyme-linked Immunoabsorbent Assay

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Gene Info — HIST1H3A

Entrez GeneID [8350](#)

Protein Accession# [P68431](#)

Gene Name HIST1H3A

Gene Alias H3/A, H3FA

Gene Description histone cluster 1, H3a

Omim ID [602810](#)

Gene Ontology [Hyperlink](#)

Gene Summary

Histones are basic nuclear proteins that are responsible for the nucleosome structure of the chromosomal fiber in eukaryotes. This structure consists of approximately 146 bp of DNA wrapped around a nucleosome, an octamer composed of pairs of each of the four core histones (H2A, H2B, H3, and H4). The chromatin fiber is further compacted through the interaction of a linker histone, H1, with the DNA between the nucleosomes to form higher order chromatin structures. This gene is intronless and encodes a member of the histone H3 family. Transcripts from this gene lack polyA tails; instead, they contain a palindromic termination element. This gene is found in the large histone gene cluster on chromosome 6p22-p21.3. [provided by RefSeq]

Other Designations

H3 histone family, member A|histone 1, H3a

Publication Reference

- [Lysine-specific demethylase 1 regulates differentiation onset and migration of trophoblast stem cells.](#)

Zhu D, Holz S, Metzger E, Pavlovic M, Jandausch A, Jilg C, Galgoczy P, Herz C, Moser M, Metzger D, Gunther T, Arnold SJ, Schule R.

Nature Communications 2014 Jan; 5:3174.

Application: ChIP, Mouse, Trophoblast stem cells

- [Histone modifications at the blastocyst Axin1\(Fu\) locus mark the heritability of in vitro culture-induced epigenetic alterations in mice.](#)

Fernandez-Gonzalez R, Ramirez MA, Pericuesta E, Calle A, Gutierrez-Adan A.

Biology of Reproduction 2010 Nov; 83(5):720.

Application: ChIP, Mouse, Mouse blastocysts

- [Phosphorylation of histone H3T6 by PKCbeta\(I\) controls demethylation at histone H3K4.](#)

Metzger E, Imhof A, Patel D, Kahl P, Hoffmeyer K, Friedrichs N, Muller JM, Greschik H, Kirfel J, Ji S, Kunowska N, Beisenherz-Huss C, Gunther T, Buettner R, Schule R.

Nature 2010 Apr; 464(7289):792.

Application: ChIP, IHC-P, WB-Ce, Human, LNCaP cells, Prostate tissues

Pathway

- [Systemic lupus erythematosus](#)