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Datasheet for 600-401-X48

# Histone H2A pan Antibody

## Overview

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| **Description:** | Anti-Histone H2A pan (RABBIT) Antibody - 600-401-X48 |
| **Item No.:** | 600-401-X48 |
| **Size:** | 50 µg |
| **Applications:** | ChIP, ELISA, IF, WB |
| **Reactivity:** | Human |
| **Host Species:** | Rabbit |

## Product Details

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| **Background:** | Histones are the main constituents of the protein part of chromosomes of eukaryotic cells. They are rich in the amino acids arginine and lysine and have been greatly conserved during evolution. Histones pack the DNA into tight masses of chromatin. Two core histones of each class H2A, H2B, H3 and H4 assemble and are wrapped by 146 base pairs of DNA to form one octameric nucleosome. Histones play a internal role in the regulation of transcription, DNA repair, DNA replication and chromosomal stability. These different functions are established via a complex set of post-translational modifications which either directly or indirectly alter chromatin structure and DNA accessibility to facilitate transcriptional activation or repression or other nuclear processes. Anti-Histone H2A pan Antibody is ideal for research in Chromatin Remodeling, Gene Expression and Epigenetics. |
| **Synonyms:** | Histone H2A type 1-B/E, Histone H2A.2, Histone H2A/a, Histone H2A/m, H2AFM, HIST1H2AE, H2AFA |
| **Host Species:** | Rabbit |
| **Clonality:** | Polyclonal |
| **Format:** | IgG |

## Target Details

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| **Gene Name:** | HIST1H2AB |
| **Reactivity:** | Human |
| **Immunogen Type:** | Conjugated Peptide |

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| **Immunogen:** | Anti-Histone H2A pan Antibody was produced in rabbits by repeated immunizations with a synthetic peptide containing a sequence from the C-terminus of histone H2A. |
| **Purity/Specificity:** | Anti-Histone H2A pan Antibody was purified by affinity purification. Cross reactivity with other species was not tested. |
| **Relevant Links:** | • UniProtKB - P0C0S8<br>• GeneID - 8329<br>• NCBI - NP_003500 |

## Application Details

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| **Tested Applications:** | ChIP, ELISA, IF, WB |
| **Application Note:** | Anti-Histone H2A pan Antibody has been tested by Chromatin Immunoprecipitation, western blot, immunofluorescence, and ELISA. Specific conditions for reactivity should be optimized by the end user. |
| **Assay Dilutions:** | All assays should be optimized by the user. Recommended dilutions (if any) may be listed below. |
| **ChIP:** | 1-2 µg per IP |
| **ELISA:** | 1:100 - 1:1,000 |
| **IF:** | 1:500 |
| **WB:** | 1:2,000 |

## Formulation

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| **Physical State:** | Liquid (sterile filtered) |
| **Concentration:** | 0.64 mg/ml by UV absorbance at 280 nm |
| **Buffer:** | 0.01 M Sodium Phosphate, 0.25 M Sodium Chloride, pH 7.2 |
| **Preservative:** | 0.05% (w/v) Sodium Azide and 0.05% ProClin 300 |
| **Stabilizer:** | None |

## Shipping & Handling

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| **Shipping Condition:** | Dry Ice |

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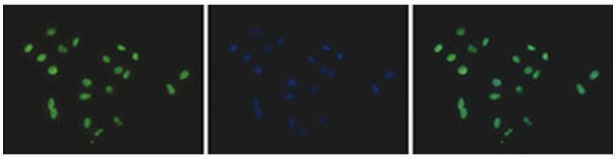
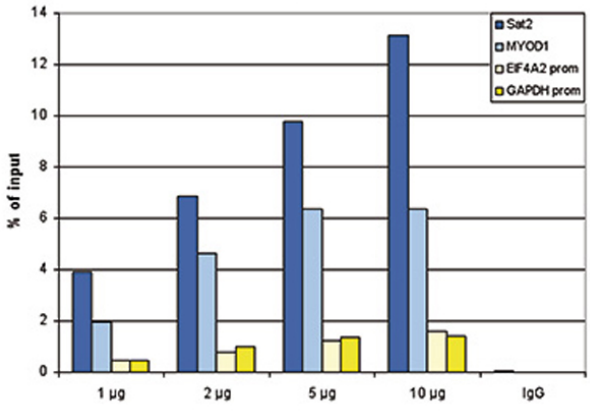
| **Storage Condition:** | Store vial at -20° C prior to opening. Aliquot contents and freeze at -20° C or below for extended storage. Avoid cycles of freezing and thawing. Centrifuge product if not completely clear after standing at room temperature. This product is stable for several weeks at 4° C as an undiluted liquid. Dilute only prior to immediate use. |
| **Expiration:** | Expiration date is one (1) year from date of receipt. |

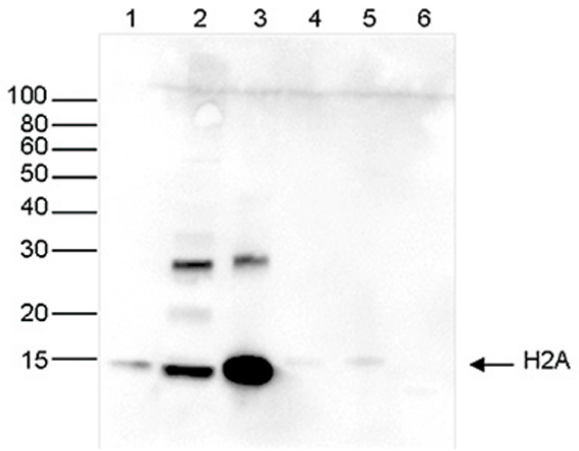
## Images



**Immunofluorescence Microscopy**
Immunofluorescence using Anti-Histone H2A pan.
HeLa cells were stained with Anti-Histone H2A pan and with DAPI. Cells were fixed with 4% formaldehyde for 10' and blocked with PBS/TX-100 containing 5% normal goat serum and 1% BSA. The cells were immunofluorescently labeled with the H2Apan antibody (left) diluted 1:500 in blocking solution followed by an anti-rabbit antibody conjugated to Alexa488. The middle panel shows staining of the nuclei with DAPI. A merge of the two stainings is shown on the right.*

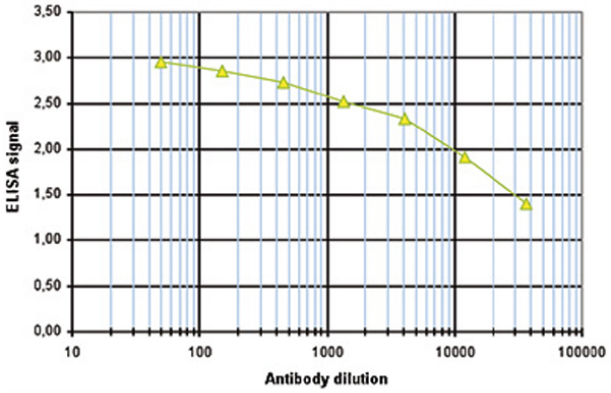



**ChIP**
ChIP results of Anti-Histone H2A pan.
ChIP assays were performed using human HeLa cells, Anti-Histone H2A pan, and optimized PCR primer sets for qPCR. ChIP was performed with the Auto Histone ChIP-seq" kit on sheared chromatin from 1 million cells using the IP-Star automated system. A titration of the antibody consisting of 1, 2, 5, and 10 µg per ChIP experiment was analysed. IgG (5 µg/IP) was used as negative IP control. QPCR was performed with primers for the GAPDH and EIF4A2 promoters, used as negative controls and for the inactive MYOD1 gene and the Sat2 satellite repeat, used as positive controls. Figure shows the recovery, expressed as a % of input (the relative amount of immunoprecipitated DNA compared to input DNA after qPCR analysis).




**Western Blot**

Western blot analysis using Anti-Histone H2A pan.
Western blot was performed on whole cell (25 µg, lane 1) and histone extracts (15 µg, lane 2) from HeLa cells, and on 1 µg of recombinant histone H2A, H2B, H3 and H4 (lane 3, 4, 5 and 6, respectively) using Anti-Histone H2A pan. The antibody was diluted 1:2,000 in TBS-Tween containing 5% skimmed milk. The position of the protein of interest is indicated on the right; the marker (in kDa) is shown on the left.




**ELISA**

Determination of the titer of Anti-Histone H2A pan.
To determine the titer of the antibody, an ELISA was performed using a serial dilution of Anti-Histone H2A pan in antigen coated wells. By plotting the absorbance against the antibody dilution, the titer of the antibody was estimated to be 1:32,500.

## Disclaimer