

Datasheet for 600-401-P06**Histone H4 K12ac Antibody****Overview**

Description:	Anti-Histone H4 [ac Lys12] (RABBIT) Antibody - 600-401-P06
Item No.:	600-401-P06
Size:	50 µg
Applications:	Dot Blot, IF, Multiplex, WB, Microarray
Reactivity:	Human
Host Species:	Rabbit

Product Details**Background:**

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. In particular, acetylation of H4 Lys5 (H4 Lys5Ac) has been linked to transcriptional activation and DNA repair. Newly assembled histones are typically acetylated on H4 at lysine 5 and 12. The enzyme histone acetyltransferase 1 (HAT1) is the primary modulator, and these marks are necessary for complete chromatin assembly. Research suggests that [ac Lys12] is associated with memory repair and telomere replication. Anti-Histone H4 are ideal for researchers interested in Chromatin Modifiers, Chromatin Research, Histones and Modified Histones, and Epigenetics research.

Synonyms:	rabbit anti-Histone H4 Ac Lys12 antibody, H4K12ac, HIST2H4B, HIST1H4H, HIST1H4I, HIST1H4J, HIST1H4K, HIST1H4L, HIST2H4, HIST2H4A, HIST1H4A, HIST1H4B, HIST1H4C, HIST1H4D, HIST1H4E, HIST1H4F, histone cluster 4, H4, histone 4, H4
Host Species:	Rabbit
Clonality:	Polyclonal
Format:	IgG

Target Details

Gene Name:	HIST4H4
Reactivity:	Human
PTM Specificity:	Acetylation
Immunogen Type:	Conjugated Peptide
Immunogen:	Histone H4 [ac Lys12] affinity purified antibody was prepared from whole rabbit serum produced by repeated immunizations with a synthetic acetylated peptide surrounding Lysine 12 of human Histone H4.
Purity/Specificity:	Anti-Histone H4 [ac Lys12] was affinity purified from monospecific antiserum by immunoaffinity chromatography. A BLAST analysis was used to suggest cross-reactivity with Alfalfa based on 100% sequence homology. Cross-reactivity with Histone H4 [ac Lys12] from other sources has not been determined.
Relevant Links:	• UniProtKB - P62805 • GeneID - 121504 • NCBI - NP_001029249

Application Details

Tested Applications:	Dot Blot, IF, Multiplex, WB
Suggested Applications:	Microarray (Based on references)
Application Note:	Anti-Histone H4 K12 ac antibody is tested for Western Blot, Dot Blot, and Immunocytochemistry. Specific conditions for reactivity should be optimized by the end user. Expect a band approximately ~11 kDa corresponding to Histone H4 protein by Western Blotting in HeLa histone prep lysate or the appropriate cell lysate or extract. Epi-Plus™ antibody production in collaboration with Novus Biologicals.
Assay Dilutions:	All assays should be optimized by the user. Recommended dilutions (if any) may be listed below.
IF:	1:10
IHC:	1:100
WB:	1.0 ug/mL
Other:	Dot Blot: 1:1000

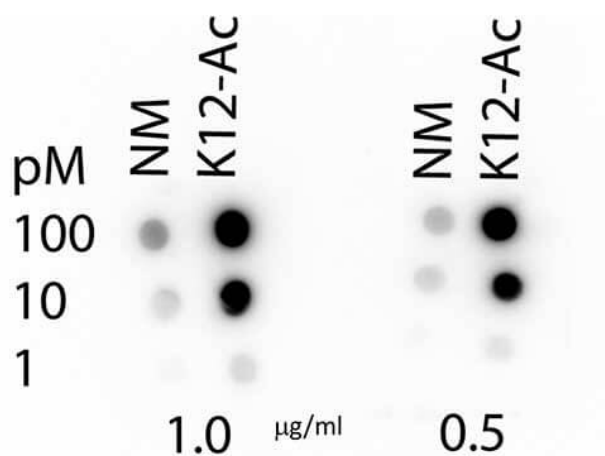
Formulation

Physical State:	Liquid (sterile filtered)
Concentration:	0.69 mg/mL by UV absorbance at 280 nm
Buffer:	0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2
Preservative:	0.01% (w/v) Sodium Azide
Stabilizer:	None

Shipping & Handling

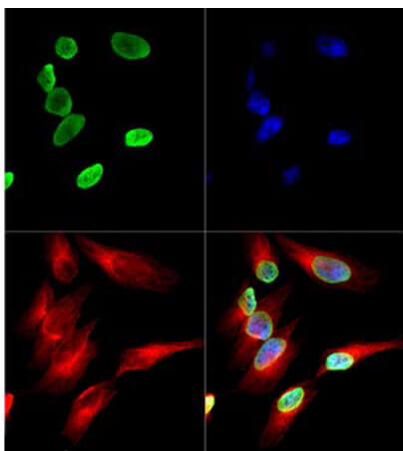
Shipping Condition:	Dry Ice
Storage Condition:	Store vial at -20° C prior to opening. Aliquot contents and freeze at -20° C or below for extended storage. Avoid cycles of freezing and thawing. Centrifuge product if not completely clear after standing at room temperature. This product is stable for several 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



Dot Blot

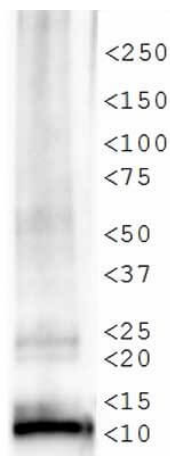
Dot Blot of Rabbit Histone H4 K12-Ac (RABBIT) Antibody. Lane 1: K12 unmodified. Lane 2: K12-Acetylated. Load: 1, 10, and 100 picomoles of peptide. Primary antibody: Histone H4 K12-Ac antibody at 1:1000 for 45 min at 4°C. Secondary antibody: RABBIT IgG (H&L) Secondary Antibody HRP Conjugated at 1:40,000 for 30 min at RT. Block: 5% BLOTTO 30 minutes at RT.



Immunofluorescence Microscopy

Immunofluorescence of Histone H4 K12-Ac (RABBIT)

Antibody: Histone H4 K12-Ac antibody was tested in HeLa cells with DyLight 488 (green). Nuclei and alpha-tubulin were counterstained with DAPI (blue) and DyLight 550 (red).



Western Blot

Western Blot of Histone H4 K12-Ac (RABBIT) Antibody.

Western Blot analysis against untreated cell extracts. Lane 1: HeLa cell lysates. Load: 35 µg per lane. Primary antibody: Histone H4 K12-Ac antibody at 1.0 µg/mL for overnight at 4°C. Secondary antibody: IRDye800™ rabbit secondary antibody at 1:10,000 for 45 min at RT. Block: 5% BLOTTO overnight at 4°C. Predicted/Observed size: 11 kDa for Histone H4 K12-Ac (RABBIT) Antibody. Other band(s): none.

References

- Kishi S et al. Role of Glycated High Mobility Group Box-1 in Gastric Cancer. *Int J Mol Sci.* (2021)

Disclaimer

This product is for research use only and is not intended for therapeutic or diagnostic applications. Please contact a technical service representative for more information. All products of animal origin manufactured by Rockland Immunochemicals are derived from starting materials of North American origin. Collection was performed in United States Department of Agriculture (USDA) inspected facilities and all materials have been inspected and certified to be free of disease and suitable for exportation. All properties listed are typical characteristics and are not specifications. All suggestions and data are offered in good faith but without guarantee as conditions and methods of use of our products are beyond our control. All claims must be made within 30 days following the date of delivery. The prospective user must determine the suitability of our materials before adopting them on a commercial scale. Suggested uses of our products are not recommendations to use our products in violation of any patent or as a license under any patent of Rockland Immunochemicals, Inc. If you require a commercial license to use this material and do not have one, then return this material, unopened to: Rockland Inc., P.O. BOX 5199, Limerick, Pennsylvania, USA.