10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

# Anti-Histone H3 [ac Lys27] (RABBIT) Antibody

**Histone H3 K27ac Antibody**
**Catalog # ASR5741**

## Specification

### Anti-Histone H3 [ac Lys27] (RABBIT) Antibody - Product Information

| | |
|---|---|
| Host | **Rabbit** |
| Conjugate | **Unconjugated** |
| Target Species | **Human** |
| Reactivity | **Human, Mouse, Monkey** |
| Clonality | **Polyclonal** |
| Application | **WB, E, IP, I, LCI** |
| Application Note | **Anti-Histone H3 [ac Lys27] antibody is tested for Dot Blot and Western Blot. This antibody is suitable in ELISA. Specific conditions for reactivity should be optimized by the end user. Expect a band approximately ~15.4kDa corresponding to the appropriate cell lysate or extract. Epi-Plus™ antibody production in collaboration with Novus Biologicals.** |
| Physical State | **Liquid (sterile filtered)** |
| Buffer | **0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2** |
| Immunogen | **Histone H3 [ac Lys27] affinity purified antibody was prepared from whole rabbit serum produced by repeated immunizations with a synthetic peptide surrounding the K27ac site of human Histone H3.** |
| Stabilizer | **30% Glycerol** |
| Preservative | **0.01% (w/v) Sodium Azide** |

### Anti-Histone H3 [ac Lys27] (RABBIT) Antibody - Additional Information

**Gene ID** 126961;333932;653604

**Other Names**
126961

**Purity**
Anti-Histone H3 [ac Lys27] was affinity purified from monospecific antiserum by immunoaffinity chromatography. A BLAST analysis was used to suggest cross-reactivity with Human, mouse, rat, and C. elegans based on 100% sequence homology. Cross-reactivity with Histone H3 [ac Lys27] from other sources has not been determined.

**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.

**Precautions Note**
This product is for research use only and is not intended for therapeutic or diagnostic applications.

## Anti-Histone H3 [ac Lys27] (RABBIT) Antibody - Protein Information

**Name** H3C15 (HGNC:20505)

**Function**
Core component of nucleosome. Nucleosomes wrap and compact DNA into chromatin, limiting DNA accessibility to the cellular machineries which require DNA as a template. Histones thereby play a central role in transcription regulation, DNA repair, DNA replication and chromosomal stability. DNA accessibility is regulated via a complex set of post-translational modifications of histones, also called histone code, and nucleosome remodeling.

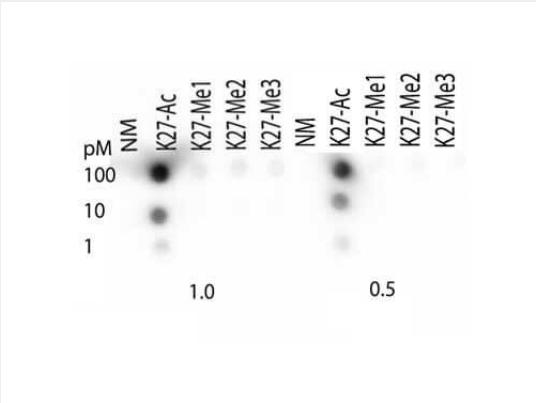
**Cellular Location**
Nucleus. Chromosome.

## Anti-Histone H3 [ac Lys27] (RABBIT) Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

## Anti-Histone H3 [ac Lys27] (RABBIT) Antibody - Images




Dot Blot of Rabbit Histone H3 [ac Lys27] Antibody. Lane 1: K27 unmodified. Lane 2: K27-Ac. Lane 3: K27-Me1. Lane 4: K27-Me2. Lane 5: K27-Me3. Load: 1, 10, and 100 picomoles of peptide. Primary antibody: Histone H3 [ac Lys27] antibody at 1:1000 for 45 min at 4°C. Secondary antibody: RABBIT IgG (H&L) Secondary Antibody Peroxidase Conjugated Pre-adsorbed at 1:40,000 for 30 min at RT. Block: 5% BLOTTO 30 minutes at RT.

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## Anti-Histone H3 [ac Lys27] (RABBIT) Antibody - Background

The nucleosome is comprised of 146 bp of DNA wrapped around a series of histone proteins arranged as an octamer consisting of 2 copies of histone H2A, H2B, H3 and H4. Within the nucleosome core the histone proteins are covalent modified at specific residues predominantly within the N-terminal tail including lysine (acetylation, methylation, SUMOylation, and ubiquitinylation), arginine methylation and citrullination, serine and threonine phosphorylation, as well as proline isomerization. The lysine side chains can carry up to three methyl groups (mono-, di- and tri- methylated forms) and the arginine side chain can be monomethylated or can be dimethylated as the symmetric or asymmetric forms. The modifications show temporal, disease-specific, and other types of cell-specific regulation and there are specific families of enzymes that regulate the methylation, demethylation, acetylation, deacetylation and other modifications. Research has indicated that whereas the histone mark H3K4Me3 (tri-methyl lysine 4 of histone H3) localizes to gene promoter regions (it is associated with transcriptional activation) other modifications at H3K4 such as monomethyl is present predominantly at enhancer sequences. Specific marks have been shown to be associated with the activation (H3K9Me1, H3K27Me1, and H4K20Me1) or repression (H3K9Me2 and Me3, H3K27Me2 and Me3, and H4K20Me2 and Me3) of genes. Monomethylation of H4 at K20, catalyzed by SET8, is essential to genome replication and stability. Multiple DNA breaks are associated with demethylation at this site, resulting in activation of p53 to avoid mitosis and aberrant chromosomal activity. In mammalian stem cells, Xist expression blocks the formation of H4K20me1, which is one of the first examples of a direct connection between chromatin and stem cell differentiation. Anti-Histone H3 are ideal for researchers interested in Chromatin Research, Epigenetics, Chromatin Modifiers, Histones and Modified Histones, and Phospho Specific research.