

## BACKGROUND

Histone H3 is one of the four histones, along with H2A, H2B and H4, which form the eukaryotic nucleosome octamer core; the nucleosome octamer winds ~146 DNA base-pairs. It is a highly conserved protein of 135 amino acid residues. The N-terminal tail of histone H3 protrudes from the globular nucleosome core and can undergo several different types of epigenetic modifications that influence cellular processes. These modifications include the covalent attachment of methyl groups to arginine, methyl or acetyl groups to lysine, and phosphorylation of serine or threonine residues. Methylation of lysine9 has been associated with gene silencing.<sup>1</sup> Acetylation of histone H3 occurs at several different lysine positions in the histone tail and is performed by a family of enzymes known as Histone Acetyl Transferases (HATs). Acetylation of lysine14 is commonly seen in genes that are being actively transcribed into RNA.<sup>2</sup> Phosphorylation of histone H3 at serine 10 occurs during mitosis and meiosis in a wide range of eukaryotes and has been shown to be required for proper chromosome transmission.<sup>3</sup>

### References:

1. Schneider, R et al: Nature Cell Biol. 6:73, 2004.
2. Liang, G. et al.: Proc. Natl. Acad. Sci. USA 101:7357, 2004.
3. Hsu, J. Y. et al.: Cell 102:279, 2000.

## TECHNICAL INFORMATION

### Source:

Anti-histone H3 antibody is a rabbit polyclonal antibody raised against synthetic peptide corresponding to C-terminal sequence of human histone H3 proteins.

### Specificity and Sensitivity:

Anti-histone H3 detects endogenous histone H3 proteins and does not cross-react with other histone proteins.

**Storage Buffer:** 0.1 M PBS (pH 7.2), 0.1% glycine, 0.1% sodium azide, 0.1% BSA, 50% glycerol.

### Storage:

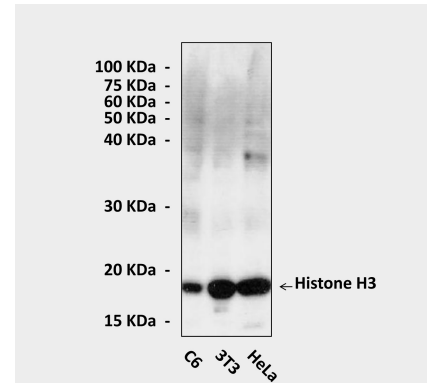
Store at -20°C for at least one year. Store at 4°C for frequent use. Avoid repeated freeze-thaw cycles.

## APPLICATIONS

Application:	*Dilution:
WB	1:1000
IP	n/d
IHC	n/d
ICC	n/d
FACS	n/d

*\*Optimal dilutions must be determined by end user.*

## QUALITY CONTROL DATA



Specific detection of histone H3 protein in various indicated cell lines by Western blot analysis using polyclonal histone H3 Antibody.

