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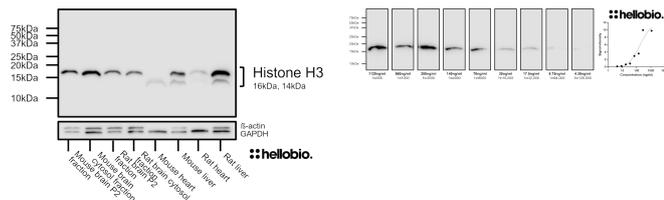
# DATASHEET

## Anti-Histone H3 antibody ValidAb™

### Product overview

<b>Name</b>	Anti-Histone H3 antibody ValidAb™
<b>Cat No</b>	HB6980
<b>Host</b>	Rabbit
<b>Clonality</b>	Polyclonal
<b>Description</b>	Antibody to Histone H3 - Histone protein used as a loading control for western blotting. Part of the ValidAb™ range of highly validated, data-rich antibodies.

### Validation data



### Product information

<b>Immunogen</b>	Synthetic peptide consisting of residues from within the C-terminus of human Histone H3. The sequence of the immunogen is: REIRRYQKSTELLIRKLPFQRLMREIAQDFKTDLRFQSSAVMALQEA CESYLVLGFEDTNLCVIAHAKRVTIMPKDIQLARRIRGERA
<b>Isotype</b>	IgG
<b>Purification</b>	Immunogen affinity chromatography
<b>Concentration</b>	0.56 mg/mL
<b>Formulation</b>	PBS with 0.01% thiomersal and 50% glycerol, pH7.3
<b>Predicted species reactivity</b>	Mouse, Rat, Human
<b>Tested species reactivity</b>	Mouse, Rat

### Tested applications

<b>Applications</b>	WB
<b>Western blot optimal concentration</b>	280ng/ml (1:2,000 dilution) as tested in a rat brain cytosol preparation
<b>Positive control</b>	Histone H3 is found in the nucleus of all cell types therefore any tissue or cell line can serve as a positive control.
<b>Negative control</b>	Any negative control tissues or cells must not contain any nuclei therefore red blood cells or platelets can work well in addition to samples that have undergone subcellular fractionation to remove any nuclei.

<b>Applications</b>	WB
<b>Open data link</b>	Please follow <a href="#">this link to OSF</a> .

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## Target information

<b>Other names</b>	H3F3, H3
<b>UniProt ID</b>	A2348
<b>Gene name</b>	H3-4
<b>NCBI full gene name</b>	H3.4 histone, cluster member
<b>Entrez gene ID</b>	<a href="#">8290</a>
<b>Amino acids</b>	136 (15.5kDa)
<b>Isoforms</b>	Histone H3 has 21 family members with this antibody having an immunogen based upon Histone H3.1t. This family member has no known isoforms. Please note that this antibody is not isoform specific.
<b>Expression</b>	Histone H3 is a ubiquitous protein that is expressed in almost all eukaryotic cells throughout the body. It is found in the nuclei of cells in various tissues and organs, including but not limited to the brain, heart, liver, lungs, kidneys, and skin.
<b>Subcellular expression</b>	Histone H3 proteins are expressed in the nucleus where they form the structure of chromatin around which DNA winds.
<b>Target function</b>	Histone H3 is a key protein involved in the organization and packaging of DNA into a compact structure called chromatin in eukaryotic cells. It plays a critical role in regulating gene expression by determining the accessibility of DNA to transcription factors and other regulatory proteins. Additionally, histone H3 is subject to various post-translational modifications, such as methylation, acetylation, and phosphorylation, which are important for epigenetic regulation and influence chromatin structure and function.
<b>Processing</b>	Prior to forming an active conformation the initiator methionine is removed.
<b>Post translational modifications</b>	Histone H3 proteins are subject to numerous post-translational modifications which mediate epigenetic control of gene expression. These modifications include methylation, acetylation and phosphorylation on multiple residues amongst other modifications.
<b>Homology (compared to human)</b>	Compared to human Histone H3.1t: <ul style="list-style-type: none"><li>• Histone H3.1 was the closest homologue in mice with a 97.1% identity score</li><li>• Histone H3.1t was the closest homologue in rats with a 97.1% identity score.</li></ul>
<b>Similar proteins</b>	In a BLAST search no non-Histone H3 family members were identified as having significant homology with Histone H3.1t
<b>Epitope homology (between species)</b>	A BLAST search of the immunogen reveals a 96.55% homology with mouse and rat Histone H3.1
<b>Epitope homology (other proteins)</b>	A BLAST search of the immunogen shows that the only proteins with homology to it are Histone H3 family members.

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## Storage & Handling

**Storage instructions**

-20°C

**Important**

This product is for RESEARCH USE ONLY and is not intended for therapeutic or diagnostic use. Not for human or veterinary use

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## References

### Interactions With Histone H3 & Tools to Study Them.

Scott WA et al (2020) *Frontiers in cell and developmental biology* 8

**PubMedID** [32850821](#)

### Insights into the role of histone H3 and histone H4 core modifiable residues in *Saccharomyces cerevisiae*.

Hyland EM et al (2005) *Molecular and cellular biology* 25

**PubMedID** [16260619](#)

### Histone H3 lysine K4 methylation and its role in learning and memory.

Collins BE et al (2019) *Epigenetics & chromatin* 12

**PubMedID** [30616667](#)

### The double face of the histone variant H3.3.

Szenker E et al (2011) *Cell research* 21

**PubMedID** [21263457](#)

### Regulation of chromatin structure by site-specific histone H3 methyltransferases.

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**PubMedID** [10949293](#)

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