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DATASHEET

Anti-Histone H3 antibody ValidAb™

Product overview

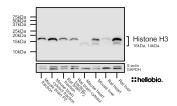
Name Anti-Histone H3 antibody ValidAb™

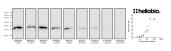
Cat NoHB6980HostRabbitClonalityPolyclonalTargetHistone H3

Description 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

Immunogen Synthetic peptide consisting of residues from within the C-terminus of human Histone H3. The

sequence of the immunogen is: REIRRYQKSTELLIRKLPFQRLMREIAQDFKTDLRFQSSAVMALQEA

CESYLVGLFEDTNLCVIHAKRVTIMPKDIQLARRIRGERA

Isotype IgG

Purification Immunogen affinity chromatography

Concentration 0.56 mg/mL

Formulation PBS with 0.01% thiomersal and 50% glycerol, pH7.3

Predicted species reactivity Mouse, Rat, Human Tested species reactivity Mouse, Rat

Tested applications

Applications W

Western blot optimal 280ng/ml (1:2,000 dilution) as tested in a rat brain cytosol preparation **concentration**

Positive control Histone H3 is found in the nucleus of all cell types therefore any tissue or cell line can serve as a

positive control.

Negative control

Any negative control tissues or cells must not contain any nuclei therefore red blood cells or platelets

can work well in adittion to samples that have undergone subcellular fractionation to remove any

nuclei.

Open data link Please follow this link to OSF.

Target information

Other names H3F3, H3

UniProt ID A2348 Gene name H3-4

NCBI full gene name H3.4 histone, cluster member

Entrez gene ID 8290

Amino acids 136 (15.5kDa)

Isoforms 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.

Expression 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.

Subcellular expression Histone H3 proteins are expressed in the nucleus where they form the structure of chromatin around

which DNA wounds.

Target function 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.

Processing Prior to forming an active conformation the initiator methionine is removed.

Post translational modifications

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.

Homology (compared to

human)

Compared to human Histone H3.1t:

• Histone H3.1 was the closest homologue in mice with a 97.1% identity score • Histone H3.1t was the closest homologue in rats with a 97.1% identity score.

Similar proteins In a BLAST search no non-Histone H3 family members were identified as having significant homology

with Histone H3.1t

Epitope homology (between

species)

A BLAST search of the immunogen reveals a 96.55% homology with mouse and rat Histone H3.1

Epitope homology (other

proteins)

A BLAST search of the immunogen shows that the only proteins with homology to it are Histone H3

family members.

Storage & Handling

Storage instructions **Shipping Conditions** -20°C On ice

Important

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

for human or veterinary use

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.

Rea S et al (2000) Nature 406

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