

HAT-2 Antibody
Rabbit Polyclonal Antibody
Catalog # ABV10525**Specification**

HAT-2 Antibody - Product Information

Application	WB
Primary Accession	O95251
Other Accession	AAH32640
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	70642

HAT-2 Antibody - Additional Information**Gene ID** 11143**Application & Usage**

Western blotting (0.5-4 µg/ml). However, the optimal concentrations should be determined individually. The antibody recognizes ~65 kDa HAT-2 from human samples, and in a lesser extent, from mouse and rat samples. Jurkat cell lysate can be used as a positive control.

Other Names

Anti-HAT-2 antibody, HAT-2 antibody, Anti-HAT-2, HAT-2, HAT, histone acetyltransferase, HATs, HDACs HAT-2 Polyclonal Antibody, Anti-HAT-2

Target/Specificity

HAT2

Antibody Form

Liquid

Appearance

Colorless liquid

Formulation

100 µg (0.5 mg/ml) Protein A affinity purified rabbit polyclonal antibody in phosphate-buffered saline (PBS) containing 30% glycerol, 0.5% BSA, and 0.01% thimerosal.

Handling

The antibody solution should be gently mixed before use.

Reconstitution & Storage

-20 °C

Background Descriptions

Precautions

HAT-2 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

HAT-2 Antibody - Protein Information

Name KAT7 {ECO:0000303|PubMed:31767635, ECO:0000312|HGNC:HGNC:17016}

Function

Catalytic subunit of histone acetyltransferase HBO1 complexes, which specifically mediate acetylation of histone H3 at 'Lys-14' (H3K14ac), thereby regulating various processes, such as gene transcription, protein ubiquitination, immune regulation, stem cell pluripotent and self-renewal maintenance and embryonic development (PubMed:16387653, PubMed:21753189, PubMed:24065767, PubMed:26620551, PubMed:31767635, PubMed:31827282). Some complexes also catalyze acetylation of histone H4 at 'Lys-5', 'Lys-8' and 'Lys-12' (H4K5ac, H4K8ac and H4K12ac, respectively), regulating DNA replication initiation, regulating DNA replication initiation (PubMed:10438470, PubMed:19187766, PubMed:20129055, PubMed:24065767). Specificity of the HBO1 complexes is determined by the scaffold subunit: complexes containing BRPF scaffold (BRPF1, BRD1/BRPF2 or BRPF3) direct KAT7/HBO1 specificity towards H3K14ac, while complexes containing JADE (JADE1, JADE2 and JADE3) scaffold direct KAT7/HBO1 specificity towards histone H4 (PubMed:19187766, PubMed:20129055, PubMed:24065767, PubMed:26620551). H3K14ac promotes transcriptional elongation by facilitating the processivity of RNA polymerase II (PubMed:31827282). Acts as a key regulator of hematopoiesis by forming a complex with BRD1/BRPF2, directing KAT7/HBO1 specificity towards H3K14ac and promoting erythroid differentiation (PubMed:21753189). H3K14ac is also required for T-cell development (By similarity). KAT7/HBO1-mediated acetylation facilitates two consecutive steps, licensing and activation, in DNA replication initiation: H3K14ac facilitates the activation of replication origins, and histone H4 acetylation (H4K5ac, H4K8ac and H4K12ac) facilitates chromatin loading of MCM complexes, promoting DNA replication licensing (PubMed:10438470, PubMed:11278932, PubMed:18832067, PubMed:19187766, PubMed:20129055, PubMed:21856198, PubMed:24065767, PubMed:26620551). Acts as a positive regulator of centromeric CENPA assembly: recruited to centromeres and mediates histone acetylation, thereby preventing centromere inactivation mediated by SUV39H1, possibly by increasing histone turnover/exchange (PubMed:27270040). Involved in

nucleotide excision repair: phosphorylation by ATR in response to ultraviolet irradiation promotes its localization to DNA damage sites, where it mediates histone acetylation to facilitate recruitment of XPC at the damaged DNA sites (PubMed:28719581). Acts as an inhibitor of NF-kappa-B independently of its histone acetyltransferase activity (PubMed:16997280).

Cellular Location

Nucleus. Chromosome. Chromosome, centromere. Cytoplasm, cytosol {ECO:0000250|UniProtKB:Q5SVQ0}. Note=Associates with replication origins specifically during the G1 phase of the cell cycle (PubMed:18832067, PubMed:20129055). Localizes to transcription start sites (PubMed:21753189, PubMed:24065767). Localizes to ultraviolet- induced DNA damage sites following phosphorylation by ATR (PubMed:28719581). Localizes to centromeres in G1 phase (PubMed:27270040).

Tissue Location

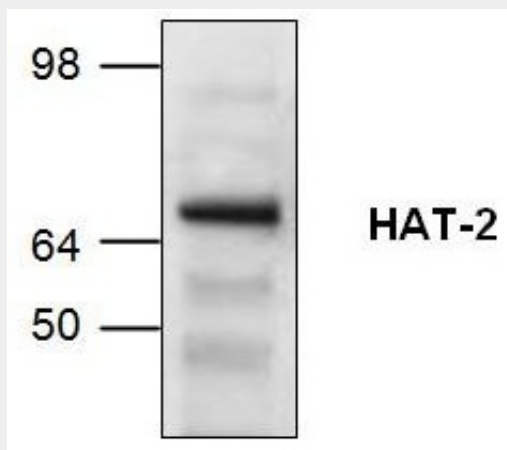
Ubiquitously expressed, with highest levels in testis.

HAT-2 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 Cytometry](#)
- [Cell Culture](#)

HAT-2 Antibody - Images



Western blot analysis of HAT-2 expression in Jurkat cell lysate.

HAT-2 Antibody - Background

Histone acetyltransferases (HATs) have been implicated in a number of cellular functions including gene regulation, DNA synthesis, and repair. Histone acetyltransferases and deacetylases are, respectively, the enzymes devoted to the addition and removal of acetyl groups from lysine

residues on the histone N-terminal tails. The enzymes exert fundamental roles in developmental processes and their deregulation has been linked to the progression of diverse human disorders, including cancer.