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HAT1 Antibody (N-term)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP14563a

Product Information

Application	WB, E
Primary Accession	O14929
Other Accession	Q5M939, Q8BY71, NP_003633.1
Reactivity	Human
Predicted	Mouse, Rat, Bovine, Canine, Rabbit, Chicken
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB34525
Calculated MW	49541
Antigen Region	21-50

Additional Information

Gene ID	8520
Other Names	Histone acetyltransferase type B catalytic subunit, Histone acetyltransferase 1, HAT1, KAT1
Target/Specificity	This HAT1 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 21-50 amino acids from the N-terminal region of human HAT1.
Dilution	WB~~1:1000 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	HAT1 Antibody (N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	HAT1
Synonyms	KAT1

Function

Histone acetyltransferase that plays a role in different biological processes including cell cycle progression, glucose metabolism, histone production or DNA damage repair (PubMed:20953179, PubMed:23653357, PubMed:31278053, PubMed:32081014). Coordinates histone production and acetylation via H4 promoter binding (PubMed:31278053). Acetylates histone H4 at 'Lys-5' (H4K5ac) and 'Lys-12' (H4K12ac) and, to a lesser extent, histone H2A at 'Lys-5' (H2AK5ac) (PubMed:11585814, PubMed:22615379). Drives H4 production by chromatin binding to support chromatin replication and acetylation. Since transcription of H4 genes is tightly coupled to S-phase, plays an important role in S-phase entry and progression (PubMed:31278053). Promotes homologous recombination in DNA repair by facilitating histone turnover and incorporation of acetylated H3.3 at sites of double-strand breaks (PubMed:23653357). In addition, acetylates other substrates such as chromatin-related proteins (PubMed:32081014). Also acetylates RSAD2 which mediates the interaction of ubiquitin ligase UBE4A with RSAD2 leading to RSAD2 ubiquitination and subsequent degradation (PubMed:31812350). In addition to protein acetyltransferase, can use different acyl-CoA substrates, such as 2-methylpropenoyl-CoA (methacryl-CoA), and is able to mediate histone methacrylation (PubMed:34961760).

Cellular Location

[Isoform A]: Nucleus matrix Mitochondrion

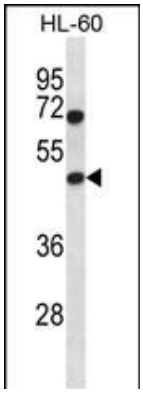
Background

The protein encoded by this gene is a type B histone acetyltransferase (HAT) that is involved in the rapid acetylation of newly synthesized cytoplasmic histones, which are in turn imported into the nucleus for de novo deposition onto nascent DNA chains. Histone acetylation, particularly of histone H4, plays an important role in replication-dependent chromatin assembly. Specifically, this HAT can acetylate soluble but not nucleosomal histone H4 at lysines 5 and 12, and to a lesser degree, histone H2A at lysine 5. Alternatively spliced transcript variants have been identified for this gene.

References

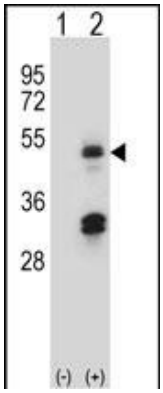
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Images



HAT1 Antibody (N-term) (Cat. #AP14563a) western blot analysis in HL-60 cell line lysates (35ug/lane).This demonstrates the HAT1 antibody detected the HAT1 protein (arrow).

Western blot analysis of HAT1 (arrow) using rabbit polyclonal HAT1 Antibody (N-term) (Cat. #AP14563a). 293



cell lysates (2 ug/lane) either nontransfected (Lane 1) or transiently transfected (Lane 2) with the HAT1 gene.

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