10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

KAT1 (HAT1) Antibody (C-term)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AW5600

Product Information

Application	WB
Primary Accession	O14929
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Calculated MW	49541
Isotype	Rabbit IgG
Antigen Source	HUMAN

Additional Information

Gene ID	8520
Antigen Region	389-419
Other Names	Histone acetyltransferase type B catalytic subunit, Histone acetyltransferase 1, HAT1, KAT1
Dilution	WB~~1:2000
Target/Specificity	This KAT1 (HAT1) antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 389-419 amino acids from the C-terminal region of human KAT1 (HAT1).
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS.
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	KAT1 (HAT1) Antibody (C-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

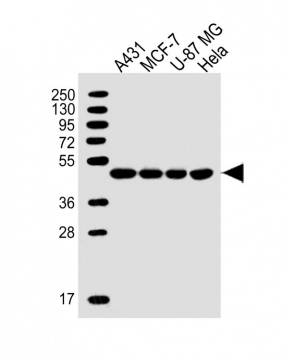
Background

Histone acetylation, particularly of histone H4, has been proposed to play an important role in replication-dependent nucleosome assembly. The HAT1 protein contains D, A, and B motifs, which are present in many N-acetyltransferases, including those that acetylate substrates other than histones. The HAT1 holoenzyme consists of 2 subunits: the catalytic 46-kD HAT1 and the accessory p46. The p46 subunit stimulated the activity of HAT1 and bound to core histones. The HAT1 holoenzyme acetylated newly synthesized but not nucleosomal histone H4 at lys5 and lys12, and, to a lesser extent, histone H2A at lys5. HAT1 and p46 polypeptides are located in the nucleus of S-phase cells. HAT1 may play a role in telomeric silencing.

References

Gronroos, E., et al., Mol. Cell 10(3):483-493 (2002).
Makowski, A.M., et al., J. Biol. Chem. 276(47):43499-43502 (2001).
Cheung, P., et al., Mol. Cell 5(6):905-915 (2000).
Verreault, A., et al., Curr. Biol. 8(2):96-108 (1998).

Images



All lanes : Anti-HAT1 Antibody (E404) at 1:2000 dilution Lane 1: A431 whole cell lysate Lane 2: MCF-7 whole cell lysate Lane 3: U-87 MG whole cell lysate Lane 4: Hela whole cell lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 50 kDa Blocking/Dilution buffer: 5% NFDM/TBST.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.