

GCN5 Antibody (N-term)

Purified Rabbit Polyclonal Antibody (Pab)

Catalog # AP1078d

Product Information

Application	WB, E
Primary Accession	Q92830
Other Accession	Q9JHD2 , Q8N1A2
Reactivity	Human
Predicted	Mouse
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB14374
Calculated MW	93926
Antigen Region	65-94

Additional Information

Gene ID	2648
Other Names	Histone acetyltransferase KAT2A, General control of amino acid synthesis protein 5-like 2, Histone acetyltransferase GCN5, HsGCN5, Lysine acetyltransferase 2A, STAF97, KAT2A, GCN5, GCN5L2, HGCN5
Target/Specificity	This GCN5 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 65-94 amino acids from the N-terminal region of human GCN5.
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 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	GCN5 Antibody (N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	KAT2A {ECO:0000303 PubMed:27796307, ECO:0000312 HGNC:HGNC:4201}
Function	Protein lysine acyltransferase that can act as a acetyltransferase,

glutaryltransferase, succinyltransferase or malonyltransferase, depending on the context (PubMed:[29211711](#), PubMed:[35995428](#)). Acts as a histone lysine succinyltransferase: catalyzes succinylation of histone H3 on 'Lys-79' (H3K79succ), with a maximum frequency around the transcription start sites of genes (PubMed:[29211711](#)). Succinylation of histones gives a specific tag for epigenetic transcription activation (PubMed:[29211711](#)). Association with the 2-oxoglutarate dehydrogenase complex, which provides succinyl-CoA, is required for histone succinylation (PubMed:[29211711](#)). In different complexes, functions either as an acetyltransferase (HAT) or as a succinyltransferase: in the SAGA and ATAC complexes, acts as a histone acetyltransferase (PubMed:[17301242](#), PubMed:[19103755](#), PubMed:[29211711](#)). Has significant histone acetyltransferase activity with core histones, but not with nucleosome core particles (PubMed:[17301242](#), PubMed:[19103755](#), PubMed:[21131905](#)). Has a strong preference for acetylation of H3 at 'Lys-9' (H3K9ac) (PubMed:[21131905](#)). Also catalyzes acetylation of histone H1.4 (H1-4) at 'Lys-34' (H1.4K34ac), a modification enriched at promoters of active genes (PubMed:[22465951](#)). Acetylation of histones gives a specific tag for epigenetic transcription activation (PubMed:[17301242](#), PubMed:[19103755](#), PubMed:[29211711](#)). Recruited by the XPC complex at promoters, where it specifically mediates acetylation of histone variant H2A.Z.1/H2A.Z, thereby promoting expression of target genes (PubMed:[29973595](#), PubMed:[31527837](#)). Involved in long-term memory consolidation and synaptic plasticity: acts by promoting expression of a hippocampal gene expression network linked to neuroactive receptor signaling (By similarity). Acts as a positive regulator of T-cell activation: upon TCR stimulation, recruited to the IL2 promoter following interaction with NFATC2 and catalyzes acetylation of histone H3 at 'Lys-9' (H3K9ac), leading to promote IL2 expression (By similarity). Required for growth and differentiation of craniofacial cartilage and bone by regulating acetylation of histone H3 at 'Lys-9' (H3K9ac) (By similarity). Regulates embryonic stem cell (ESC) pluripotency and differentiation (By similarity). Also acetylates non-histone proteins, such as CEBPB, MRE11, PPARGC1A, PLK4 and TBX5 (PubMed:[16753578](#), PubMed:[17301242](#), PubMed:[27796307](#), PubMed:[29174768](#), PubMed:[38128537](#)). Involved in heart and limb development by mediating acetylation of TBX5, acetylation regulating nucleocytoplasmic shuttling of TBX5 (PubMed:[29174768](#)). Acts as a negative regulator of centrosome amplification by mediating acetylation of PLK4 (PubMed:[27796307](#)). Acts as a negative regulator of gluconeogenesis by mediating acetylation and subsequent inactivation of PPARGC1A (PubMed:[16753578](#), PubMed:[23142079](#)). Also acts as a histone glutaryltransferase: catalyzes glutarylation of histone H4 on 'Lys-91' (H4K91glu), a mark that destabilizes nucleosomes by promoting dissociation of the H2A-H2B dimers from nucleosomes (PubMed:[31542297](#)).

Cellular Location

Nucleus. Chromosome Cytoplasm, cytoskeleton, microtubule organizing center, centrosome. Note=Mainly localizes to the nucleus (PubMed:[27796307](#)). Localizes to sites of DNA damage (PubMed:[25593309](#)). Also localizes to centrosomes in late G1 and around the G1/S transition, coinciding with the onset of centriole formation (PubMed:[27796307](#)).

Tissue Location

Expressed in all tissues tested.

Background

GCN5 functions as a histone acetyltransferase (HAT) to promote transcriptional activation. Acetylation of histones gives a specific tag for epigenetic transcription activation. This protein has significant histone acetyltransferase activity with core histones, but not with nucleosome core particles.

References

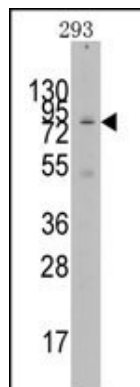
Sabo,A., Mol. Cell. Biol. 28 (7), 2201-2212 (2008)

Wiper-Bergeron,N., Proc. Natl. Acad. Sci. U.S.A. 104 (8), 2703-2708 (2007)

Oishi,H., J. Biol. Chem. 281 (1), 20-26 (2006)

Kikuchi,H., Gene 347 (1), 83-97 (2005)

Images



Western blot analysis of anti-GCN5 Antibody (N-term)(Cat.#AP1078d) in 293 cell line lysates (35ug/lane). GCN5(arrow) was detected using the purified Pab.

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