


Anti-KAT3B / p300 (phospho S89) antibody ab111870

1 Image

Overview

Product name	Anti-KAT3B / p300 (phospho S89) antibody
Description	Rabbit polyclonal to KAT3B / p300 (phospho S89)
Host species	Rabbit
Tested applications	Suitable for: IHC-P
Species reactivity	Reacts with: Human Predicted to work with: Mouse, Rat 
Immunogen	Synthetic peptide. This information is proprietary to Abcam and/or its suppliers.
Positive control	Human thyroid gland tissue.
General notes	<p>The Life Science industry has been in the grips of a reproducibility crisis for a number of years. Abcam is leading the way in addressing this with our range of recombinant monoclonal antibodies and knockout edited cell lines for gold-standard validation. Please check that this product meets your needs before purchasing.</p> <p>If you have any questions, special requirements or concerns, please send us an inquiry and/or contact our Support team ahead of purchase. Recommended alternatives for this product can be found below, along with publications, customer reviews and Q&As</p>

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Store at -20°C. Stable for 12 months at -20°C.
Storage buffer	pH: 7.40 Preservative: 0.02% Sodium azide Constituents: 49.1% PBS, 50% Glycerol (glycerin, glycerine), 0.88% Sodium chloride
Purity	Immunogen affinity purified
Purification notes	ab111870 was affinity-purified from Rabbit antiserum by affinity-chromatography using epitope-specific phosphopeptide. The antibody against non-phosphopeptide was removed by chromatography using non-phosphopeptide corresponding to the phosphorylation site.
Clonality	Polyclonal
Isotype	IgG

Applications

The Abpromise guarantee

Our **Abpromise guarantee** covers the use of ab111870 in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
IHC-P		1/50 - 1/100. Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.

Target

Function

Functions as histone acetyltransferase and regulates transcription via chromatin remodeling. Acetylates all four core histones in nucleosomes. Histone acetylation gives an epigenetic tag for transcriptional activation. Mediates cAMP-gene regulation by binding specifically to phosphorylated CREB protein. Mediates acetylation of histone H3 at 'Lys-122' (H3K122ac), a modification that localizes at the surface of the histone octamer and stimulates transcription, possibly by promoting nucleosome instability. Mediates acetylation of histone H3 at 'Lys-27' (H3K27ac). Also functions as acetyltransferase for nonhistone targets. Acetylates 'Lys-131' of ALX1 and acts as its coactivator. Acetylates SIRT2 and is proposed to indirectly increase the transcriptional activity of TP53 through acetylation and subsequent attenuation of SIRT2 deacetylase function. Acetylates HDAC1 leading to its inactivation and modulation of transcription. Acts as a TFAP2A-mediated transcriptional coactivator in presence of CITED2. Plays a role as a coactivator of NEUROD1-dependent transcription of the secretin and p21 genes and controls terminal differentiation of cells in the intestinal epithelium. Promotes cardiac myocyte enlargement. Can also mediate transcriptional repression. Binds to and may be involved in the transforming capacity of the adenovirus E1A protein. In case of HIV-1 infection, it is recruited by the viral protein Tat. Regulates Tat's transactivating activity and may help inducing chromatin remodeling of proviral genes. Acetylates FOXO1 and enhances its transcriptional activity. Acetylates BCL6 which disrupts its ability to recruit histone deacetylases and hinders its transcriptional repressor activity. Participates in CLOCK or NPAS2-regulated rhythmic gene transcription; exhibits a circadian association with CLOCK or NPAS2, correlating with increase in PER1/2 mRNA and histone H3 acetylation on the PER1/2 promoter. Acetylates MTA1 at 'Lys-626' which is essential for its transcriptional coactivator activity (PubMed:10733570, PubMed:11430825, PubMed:11701890, PubMed:12402037, PubMed:12586840, PubMed:12929931, PubMed:14645221, PubMed:15186775, PubMed:15890677, PubMed:16617102, PubMed:16762839, PubMed:18722353, PubMed:18995842, PubMed:23415232, PubMed:23911289, PubMed:23934153, PubMed:8945521). Acetylates XBP1 isoform 2; acetylation increases protein stability of XBP1 isoform 2 and enhances its transcriptional activity (PubMed:20955178). Acetylates PCNA; acetylation promotes removal of chromatin-bound PCNA and its degradation during nucleotide excision repair (NER) (PubMed:24939902). Acetylates MEF2D.

Involvement in disease

Defects in EP300 may play a role in epithelial cancer.
Chromosomal aberrations involving EP300 may be a cause of acute myeloid leukemias.
Translocation t(8;22)(p11;q13) with KAT6A.
Rubinstein-Taybi syndrome 2

Sequence similarities

Contains 1 bromo domain.
Contains 1 CBP/p300-type HAT (histone acetyltransferase) domain.
Contains 1 KIX domain.
Contains 2 TAZ-type zinc fingers.

Contains 1 ZZ-type zinc finger.

Domain

The CRD1 domain (cell cycle regulatory domain 1) mediates transcriptional repression of a subset of p300 responsive genes; it can be de-repressed by CDKN1A/p21WAF1 at least at some promoters. It contains sumoylation and acetylation sites and the same lysine residues may be targeted for the respective modifications. It is proposed that deacetylation by SIRT1 allows sumoylation leading to suppressed activity.

Post-translational modifications

Acetylated on Lys at up to 17 positions by intermolecular autocatalysis. Deacetylated in the transcriptional repression domain (CRD1) by SIRT1, preferentially at Lys-1020. Deacetylated by SIRT2, preferentially at Lys-418, Lys-423, Lys-1542, Lys-1546, Lys-1549, Lys-1699, Lys-1704 and Lys-1707.

Citrullinated at Arg-2142 by PAD14, which impairs methylation by CARM1 and promotes interaction with NCOA2/GRIP1.

Methylated at Arg-580 and Arg-604 in the KIX domain by CARM1, which blocks association with CREB, inhibits CREB signaling and activates apoptotic response. Also methylated at Arg-2142 by CARM1, which impairs interaction with NCOA2/GRIP1.

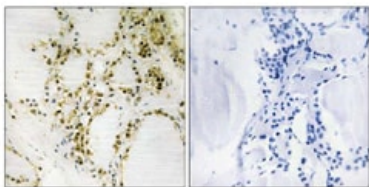
Sumoylated; sumoylation in the transcriptional repression domain (CRD1) mediates transcriptional repression. Desumoylated by SENP3 through the removal of SUMO2 and SUMO3. Probable target of ubiquitination by FBXO3, leading to rapid proteasome-dependent degradation.

Phosphorylated by HIPK2 in a RUNX1-dependent manner. This phosphorylation that activates EP300 happens when RUNX1 is associated with DNA and CBFB. Phosphorylated by ROCK2 and this enhances its activity. Phosphorylation at Ser-89 by AMPK reduces interaction with nuclear receptors, such as PPARG.

Cellular localization

Cytoplasm. Nucleus. In the presence of ALX1 relocates from the cytoplasm to the nucleus. Colocalizes with ROCK2 in the nucleus.

Images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-KAT3B / p300 (phospho S89) antibody (ab111870)

ab111870 at 1/50 dilution staining KAT3B / p300 in paraffin-embedded Human Thyroid gland tissue by Immunohistochemistry. The image on the right is treated with the synthesized phosphopeptide.

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