abcam

Product datasheet

Anti-KAT3B / p300 antibody ab10485

★★★★★ 3 Abreviews 31 References 4 Images

Overview

Product name	Anti-KAT3B / p300 antibody
Description	Rabbit polyclonal to KAT3B / p300
Host species	Rabbit
Tested applications	**Suitable for:** IP, WB
Species reactivity	**Reacts with:** Human
Immunogen	Synthetic peptide within Human KAT3B/ p300 aa 950-1000. The exact sequence is proprietary. NP_001420.2 Database link: **Q09472** (Peptide available as **ab4914**)
Positive control	IP: HEK293T whole cell lysate. WB: HEK293T, Jurkat, HeLa whole cell lysate. MCF7, MDA-MB-231 and PC3 cell lysate.
General notes	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. 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

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C. Avoid freeze / thaw cycle.
Storage buffer	pH: 7 Preservative: 0.09% Sodium azide Constituent: Tris citrate/phosphate pH 7 to 8
Purity	Immunogen affinity purified
Purification notes	ab10485 was affinity purified using the peptide immobilized on solid support.

Clonality	Polyclonal
Isotype	IgG

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab10485 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
IP		Use at 1-4 µg/mg of lysate.
WB	★★★★★ (2)	1/5000 - 1/25000.

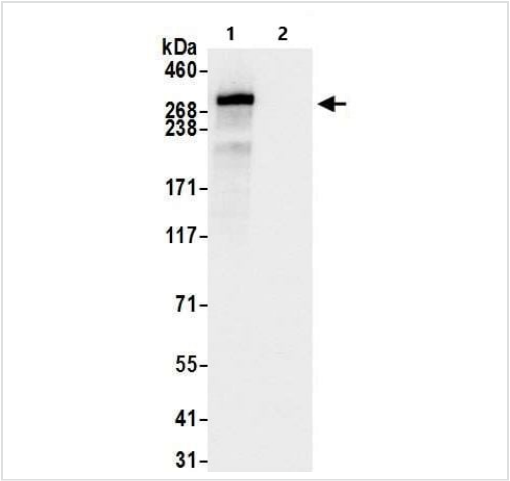
Target

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 wich 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 conatins 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 PADI4, 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 relocalizes from the cytoplasm to the nucleus. Colocalizes with ROCK2 in the nucleus.

Images



Immunoprecipitation - Anti-KAT3B / p300 antibody (ab10485)

KAT3B/p300 was immunoprecipitated from 1 mg HEK293T whole cell lysate with ab10485 at 6 µg per reaction. Western blot was performed on the immunoprecipitate using ab10485 at 0.04 µg/mL.

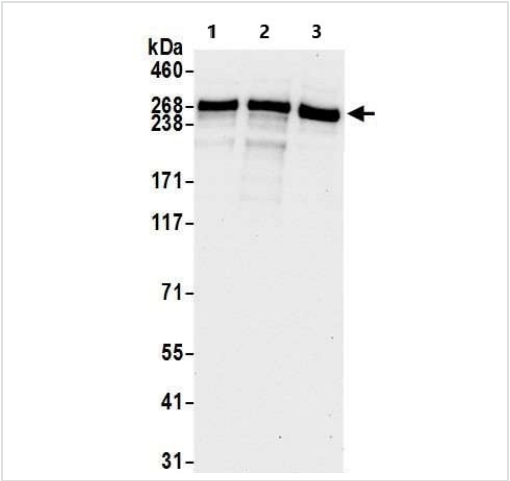
Lysates prepared using NETN lysis buffer.

Lane 1: ab10485 IP in HEK293T whole cell lysate.

Lane 2: Contol IgG in HEK293T whole cell lysate.

Detection: Chemiluminescence.

Exposure time: 3 seconds.



Western blot - Anti-KAT3B / p300 antibody (ab10485)

All lanes : Anti-KAT3B / p300 antibody (ab10485) at 0.04 µg/ml

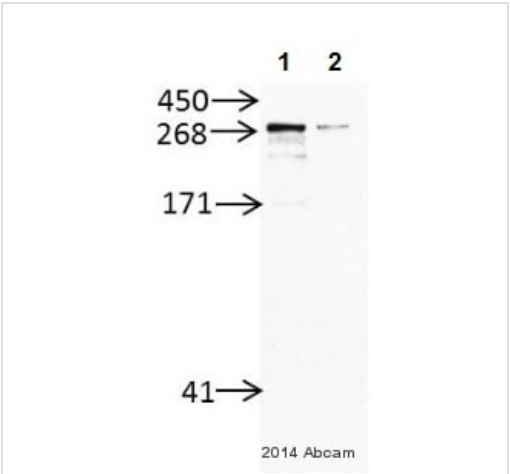
Lane 1 : HEK293T whole cell lysate
Lane 2 : Jurkat whole cell lysate
Lane 3 : HeLa whole cell lysate

Lysates/proteins at 15 µg per lane.

Exposure time: 10 seconds

Detection: Chemiluminescence.

Lysates prepared using NETN lysis buffer.



Western blot - Anti-KAT3B / p300 antibody (ab10485)

This image is courtesy of an anonymous Abreview

All lanes : Anti-KAT3B / p300 antibody (ab10485) at 1/5000 dilution

Lane 1 : Human MCF-7 Cell Lysate
Lane 2 : MDA-MB-231 Cell Lysate

Lysates/proteins at 50000 cells per lane.

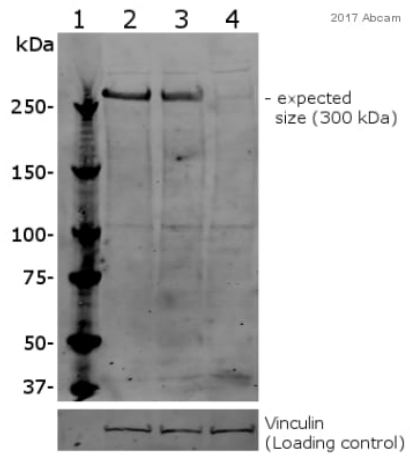
Secondary
All lanes : Anti-Rabbit IgG VHH Single Domain (HRP) (**ab191866**)

Developed using the ECL technique.

Performed under reducing conditions.

Exposure time: 3 minutes

Blocking Solution and Diluent 5% milk in TBS



Western blot - Anti-KAT3B / p300 antibody (ab10485)

This image is courtesy of an abreview by Florian Handle

All lanes : Anti-KAT3B / p300 antibody (ab10485) at 1/4000 dilution

Lane 2 : PC3 cell lysate. (parent cell line) with BSA for 30 minutes at 20°C
Lane 3 : PC3 with dox. inducible p300 shRNA, untreated with BSA for 30 minutes at 20°C
Lane 4 : PC3 with dox. inducible p300 shRNA, doxcycline treated with 60 ng/ml doxycycline for 72 hours for shRNA induction with BSA for 30 minutes at 20°C

Lysates/proteins at 38 µg per lane.

Blocking peptides at 5 % per lane.

Secondary
All lanes : IRDye 680RD Goat anti-Rabbit IgG (H + L) at 1/15000 dilution

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