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

Anti-KAT3B/p300 Picoband Antibody

Catalog # ABO11870

Specification

Anti-KAT3B/p300 Picoband Antibody - Product Information

Application	**WB, IHC-P**
Primary Accession	Q09472
Host	**Rabbit**
Reactivity	**Human, Mouse, Rat**
Clonality	**Polyclonal**
Format	**Lyophilized**

Description
Rabbit IgG polyclonal antibody for Histone acetyltransferase p300(EP300) detection. Tested with WB, IHC-P in Human;Mouse;Rat.

Reconstitution
Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

Anti-KAT3B/p300 Picoband Antibody - Additional Information

Gene ID 2033

Other Names
Histone acetyltransferase p300, p300 HAT, 2.3.1.48, E1A-associated protein p300, EP300, P300

Calculated MW
264161 MW KDa

Application Details
Immunohistochemistry(Paraffin-embedded Section), 0.5-1 µg/ml, Human, Mouse, Rat, By Heat
Western blot, 0.1-0.5 µg/ml, Human

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

Protein Name
Histone acetyltransferase p300

Contents
Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na2HPO4, 0.05mg NaN3.

Immunogen
E.coli-derived human KAT3B recombinant protein (Position: L2065-H2414). Human KAT3B shares 94% amino acid (aa) sequence identity with mouse KAT3B.

Purification
Immunogen affinity purified.

Cross Reactivity
No cross reactivity with other proteins

Storage

At -20˚C for one year. After r˚Constitution, at 4˚C for one month. It˚Can also be aliquotted and stored frozen at -20˚C for a longer time.Avoid repeated freezing and thawing.

Sequence Similarities
Contains 1 bromo domain.

Anti-KAT3B/p300 Picoband Antibody - Protein Information

Name EP300 {ECO:0000303|PubMed:15706485, ECO:0000312|HGNC:HGNC:3373}

Function
Functions as a histone acetyltransferase and regulates transcription via chromatin remodeling (PubMed:23415232, PubMed:23934153, PubMed:8945521). Acetylates all four core histones in nucleosomes (PubMed:23415232, PubMed:23934153, PubMed:8945521). Histone acetylation gives an epigenetic tag for transcriptional activation (PubMed:23415232, PubMed:23934153, PubMed:8945521). 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 (PubMed:23415232). Mediates acetylation of histone H3 at 'Lys-18' and 'Lys-27' (H3K18ac and H3K27ac, respectively) (PubMed:21131905, PubMed:23911289). Also able to acetylate histone lysine residues that are already monomethylated on the same side chain to form N6-acetyl-N6- methyllysine (Kacme), an epigenetic mark of active chromatin associated with increased transcriptional initiation (PubMed:37731000). Catalyzes formation of histone H4 acetyl-methylated at 'Lys-5' and 'Lys-12' (H4K5acme and H4K12acme, respectively) (PubMed:37731000). Also functions as acetyltransferase for non-histone targets, such as ALX1, HDAC1, PRMT1, SIRT2, STAT3 or GLUL (PubMed:12929931, PubMed:15653507, PubMed:16285960, PubMed:16762839, PubMed:18722353, PubMed:18782771, PubMed:26990986). Acetylates 'Lys-131' of ALX1 and acts as its coactivator (PubMed:12929931). Acetylates SIRT2 and is proposed to indirectly increase the transcriptional activity of p53/TP53 through acetylation and subsequent attenuation of SIRT2 deacetylase function (PubMed:18722353). Following DNA damage, forms a stress-responsive p53/TP53 coactivator complex with JMY which mediates

p53/TP53 acetylation, thereby increasing p53/TP53-dependent transcription and apoptosis (PubMed:11511361, PubMed:15448695). Promotes chromatin acetylation in heat shock responsive HSP genes during the heat shock response (HSR), thereby stimulating HSR transcription (PubMed:18451878). Acetylates HDAC1 leading to its inactivation and modulation of transcription (PubMed:16762839). Acetylates 'Lys-247' of EGR2 (By similarity). Acts as a TFAP2A-mediated transcriptional coactivator in presence of CITED2 (PubMed:12586840). 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 (PubMed:14752053). Can also mediate transcriptional repression. Acetylates FOXO1 and enhances its transcriptional activity (PubMed:15890677). Acetylates STAT3 at different sites, promoting both STAT3 dimerization and activation and recruitment to chromatin (PubMed:15653507, PubMed:16285960, PubMed:18782771). Acetylates BCL6 which disrupts its ability to recruit histone deacetylases and hinders its transcriptional repressor activity (PubMed:12402037). 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 (PubMed:14645221). Acetylates MTA1 at 'Lys-626' which is essential for its transcriptional coactivator activity (PubMed:16617102). 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 (PubMed:21030595). Acetylates and stabilizes ZBTB7B protein by antagonizing ubiquitin conjugation and degradation, this mechanism may be involved in CD4/CD8 lineage differentiation (PubMed:20810990). Acetylates GABPB1, impairing GABPB1 heterotetramerization and activity (By similarity). Acetylates PCK1 and promotes PCK1 anaplerotic activity (PubMed:30193097). Acetylates RXRA and RXRG (PubMed:17761950). Acetylates isoform M2 of PKM (PKM2), promoting its homodimerization and conversion into a protein kinase (PubMed:24120661). Acetylates RPTOR in response to leucine, leading to activation of the mTORC1 complex (PubMed:30197302, PubMed:32561715). Acetylates RICTOR, leading to activation of the mTORC2 complex (PubMed:22084251). Mediates cAMP-gene regulation by binding specifically to phosphorylated CREBBP (PubMed:8917528). In addition to protein acetyltransferase, can use different acyl-CoA substrates, such as (2E)-butenoyl-CoA (crotonyl-CoA), butanoyl-CoA (butyryl-CoA), 2- hydroxyisobutanoyl-CoA (2-hydroxyisobutyryl-CoA), lactoyl-CoA or propanoyl-CoA (propionyl-CoA), and is able to mediate protein crotonylation, butyrylation, 2-hydroxyisobutyrylation, lactylation or propionylation, respectively (PubMed:17267393, PubMed:25818647, PubMed:<a

href="http://www.uniprot.org/citations/29775581" target="_blank">29775581, PubMed:31645732). Acts as a histone crotonyltransferase; crotonylation marks active promoters and enhancers and confers resistance to transcriptional repressors (PubMed:25818647). Histone crotonyltransferase activity is dependent on the concentration of (2E)-butenoyl-CoA (crotonyl-CoA) substrate and such activity is weak when (2E)-butenoyl-CoA (crotonyl-CoA) concentration is low (PubMed:25818647). Also acts as a histone butyryltransferase; butyrylation marks active promoters (PubMed:17267393). Catalyzes histone lactylation in macrophages by using lactoyl-CoA directly derived from endogenous or exogenous lactate, leading to stimulates gene transcription (PubMed:31645732). Acts as a protein-lysine 2- hydroxyisobutyryltransferase; regulates glycolysis by mediating 2-hydroxyisobutyrylation of glycolytic enzymes (PubMed:29775581). Functions as a transcriptional coactivator for SMAD4 in the TGF-beta signaling pathway (PubMed:25514493).

Cellular Location
Cytoplasm. Nucleus. Chromosome Note=Localizes to active chromatin: Colocalizes with histone H3 acetylated and/or crotonylated at 'Lys-18' (H3K18ac and H3K18cr, respectively) (PubMed:25818647). In the presence of ALX1 relocalizes from the cytoplasm to the nucleus. Colocalizes with ROCK2 in the nucleus (PubMed:12929931). Localizes to sites of DNA damage (PubMed:25593309).

Anti-KAT3B/p300 Picoband Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

Anti-KAT3B/p300 Picoband Antibody - Images

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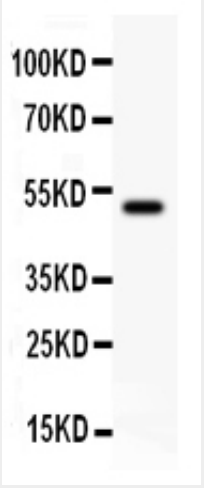
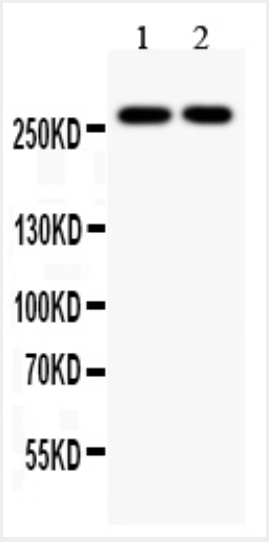
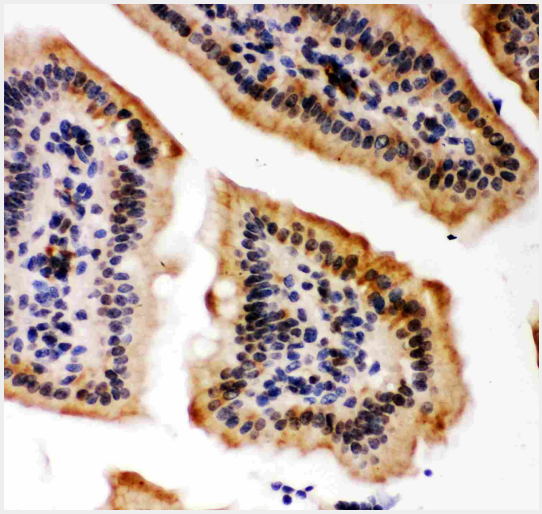


Anti- KAT3B/p300 Picoband antibody, ABO11870, Western blottingAll lanes: All lanes: Anti KAT3B/p300 (ABO11870) at 0.5ug/mlWB: Recombinant Human KAT3B/p300 Protein 0.5ngPredicted bind size: 50KDObserved bind size: 50KD



Anti- KAT3B/p300 Picoband antibody, ABO11870, Western blottingAll lanes: Anti KAT3B/p300 (ABO11870) at 0.5ug/mlLane 1: Colo320 Whole Cell Lysate at 40ugLane 2: PC12 Whole Cell Lysate at 40ugPredicted bind size: 264KDObserved bind size: 264KD



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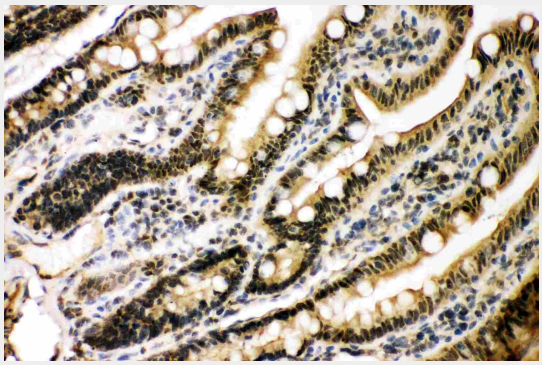
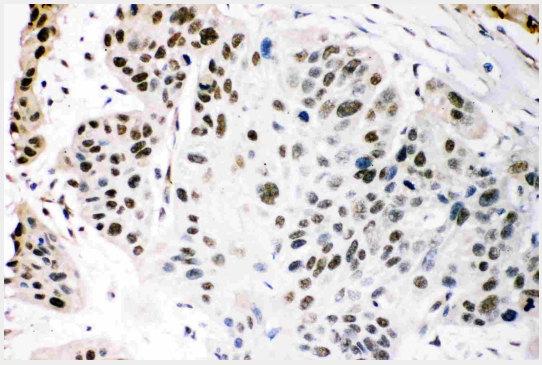
Anti- KAT3B/p300 Picoband antibody, ABO11870, IHC(P)IHC(P): Mouse Intestine Tissue



Anti- KAT3B/p300 Picoband antibody, ABO11870, IHC(P)IHC(P): Rat Intestine Tissue



Anti- KAT3B/p300 Picoband antibody, ABO11870, IHC(P)IHC(P): Human Oesophagus Squama Cancer Tissue

Anti-KAT3B/p300 Picoband Antibody - Background

E1A binding protein p300 also known as EP300 or p300 is a protein that in humans is encoded by the EP300 gene. The EP300 gene is located on the long (q) arm of the human chromosome 22 at position 13.2. This protein regulates the activity of many genes in tissues throughout the body. It plays an essential role in regulating cell growth and division, prompting cells to mature and assume specialized functions (differentiate), and preventing the growth of cancerous tumors. The EP300 protein appears to be critical for normal development before and after birth. It carries out its function by activating transcription. In addition, the protein functions as histone acetyltransferase that regulates transcription via chromatin remodeling, and is important in the processes of cell proliferation and differentiation. EP300 also mediates cAMP-gene regulation by binding specifically to phosphorylated CREB protein.