abcam

ab240355

Anti-KAT8 / MYST1 / MOF antibody [EPR15803] - BSA and Azide free

Recombinant | RabMAb

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Carrier free	Yes
Clone number	EPR15803
Purification technique	Affinity purification Protein A
Concentration	1.069 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IP

Tested

Species	Human
Dilution info	-

Notes	-

Predicted

Species	Mouse, Rat
Dilution info	-
Notes	-

WB

Expected

Species	Mouse, Rat, Human
Dilution info	Use at an assay dependent concentration.
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	-
Notes	-

Predicted

Species	Mouse, Rat
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	-
Notes	-

Predicted

Species	Mouse, Rat
Dilution info	-
Notes	-

IHC-P

Tested

Species	Human
Dilution info	-
Notes	-

Predicted

Species	Mouse, Rat
Dilution info	-
Notes	-

Target data

See full target information KAT8

Function

Histone acetyltransferase that catalyzes histone H4 acetylation at 'Lys-5'- and 'Lys-8' (H4K5ac and H4K8ac) or 'Lys-16' (H4K16ac), depending on the context (PubMed:12397079, PubMed:16227571, PubMed:16543150, PubMed:20018852, PubMed:21217699, PubMed:22020126, PubMed:22547026, PubMed:31794431, PubMed:33837287). Catalytic component of the MSL histone acetyltransferase complex, a multiprotein complex that mediates the majority of histone H4 acetylation at 'Lys-16' (H4K16ac), an epigenetic mark that prevents chromatin compaction (PubMed:12397079, PubMed:16227571, PubMed:16543150, PubMed:21217699, PubMed:22020126, PubMed:22547026, PubMed:33657400, PubMed:33837287). H4K16ac constitutes the only acetylation mark intergenerationally transmitted and regulates key biological processes, such as oogenesis, embryonic stem cell pluripotency, hematopoiesis or glucose metabolism (By similarity). The MSL complex is required for chromosome stability and genome integrity by maintaining homeostatic levels of H4K16ac (PubMed:33837287). The MSL complex is also involved in gene dosage by promoting up-regulation of genes expressed by the X chromosome (By similarity). X up-regulation is required to compensate for autosomal biallelic expression (By similarity). The MSL complex also participates in gene dosage compensation by

promoting expression of Tsix non-coding RNA (By similarity). As part of the NSL histone acetyltransferase complex, catalyzes histone H4 acetylation at 'Lys-5'- and 'Lys-8' (H4K5ac and H4K8ac) at transcription start sites and promotes transcription initiation (PubMed:20018852, PubMed:22547026, PubMed:33657400). The NSL complex also acts as a regulator of gene expression in mitochondria: KAT8 associates with mitochondrial DNA and controls expression of respiratory genes in an acetyltransferase-dependent mechanism (PubMed:27768893). Also functions as an acetyltransferase for non-histone targets, such as ALKBH5, COX17, IRF3, KDM1A/LSD1, LMNA, PAX7 or TP53/p53 (PubMed:17189187, PubMed:19854137, PubMed:37369679). Acts as an inhibitor of antiviral immunity by acetylating IRF3, preventing IRF3 recruitment to promoters (By similarity). Acts as a regulator of asymmetric division in muscle stem cells by mediating acetylation of PAX7 (By similarity). As part of the NSL complex, acetylates TP53/p53 at 'Lys-120' (PubMed:17189187, PubMed:19854137). Acts as a regulator of epithelial-to-mesenchymal transition as part of the NSL complex by mediating acetylation of KDM1A/LSD1 (PubMed:27292636). The NSL complex is required for nuclear architecture maintenance by mediating acetylation of LMNA (By similarity). Promotes mitochondrial integrity by catalyzing acetylation of COX17 (By similarity). In addition to protein acetyltransferase activity, able to mediate protein propionylation (PubMed:29321206).

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C
Storage information	Do Not Freeze

Notes

ab240355 is the carrier-free version of ab200660.

Patented technology

Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb® patents.

What are the advantages of a recombinant monoclonal antibody?

This product is a recombinant monoclonal antibody, which offers several advantages including:

- High batch-to-batch consistency and reproducibility
- Improved sensitivity and specificity
- Long-term security of supply
- Animal-free batch production

For more information, read more on recombinant antibodies.

Conjugation ready
Our carrier-free antibodies are typically supplied in a PBS-only formulation, purified and free of BSA, sodium azide and glycerol. This conjugation-ready format is designed for use with fluorochromes, metal isotopes, oligonucleotides, and enzymes, which makes them ideal for antibody labelling, functional and cell-based assays, flow-based assays (e.g. mass cytometry) and Multiplex Imaging applications.

Use our conjugation kits for antibody conjugates that are ready-to-use in as little as 20 minutes with 1 minute hands-on-time and 100% antibody recovery: available for fluorescent dyes, HRP, biotin and gold.

Compatibility
This product is compatible with the Maxpar® Antibody Labeling Kit from Fluidigm, without the need for antibody preparation. Maxpar® is a trademark of Fluidigm Canada Inc.

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	The KAT8 protein also known as MYST1 or MOF functions as a histone acetyltransferase. It acetylates histone H4 at lysine 16 which is critical for chromatin structure and gene expression regulation. The molecular mass of KAT8 is approximately 55 kDa. This protein shows high expression in testis and is also present in other tissues. KAT8 is part of the MYST family of acetyltransferases sharing similarities with other MYST family proteins such as MOF protein.
Biological function summary	KAT8 plays an essential role in gene transcription regulation by forming part of a complex known as the MSL (Male-Specific Lethal) complex. This complex ensures dosage compensation in Drosophila by adjusting gene expression levels. KAT8 is vital for the maintenance of chromatin structure influencing gene activation and silencing across various biological systems. It interacts with several co-factors during transcription regulation further highlighting its functional significance in the epigenetic landscape.
Pathways	KAT8 engages in processes linked to chromatin modification and gene expression. Specifically it plays a significant role in the pathways of chromatin organization and transcriptional regulation by RNA polymerase II. The protein ENL participates in related pathways and interacts with KAT8 during transcription elongation. These interactions highlight KAT8's role in epigenetic regulation affecting multiple genes' transcription states.
Associated diseases and disorders	KAT8 is associated with cancers and neurodevelopmental disorders. Aberrant expression or mutations in KAT8 have been observed in certain cancers making it a potential target for therapeutic intervention. In neurodevelopmental disorders changes in KAT8 acetyltransferase activity affect neuronal gene expression implicating it in disorders linked to cognitive deficits. Another protein TIP60 shows functional overlap with KAT8 in these conditions suggesting interconnected roles in disease pathogenesis.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

We do not recommend this combination. It is not covered by our product promise.

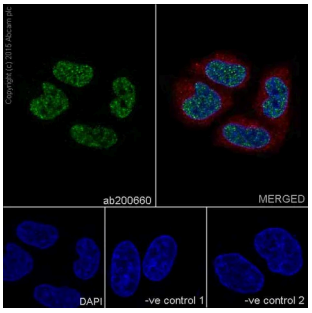
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
Terms & Conditions.

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6 product images

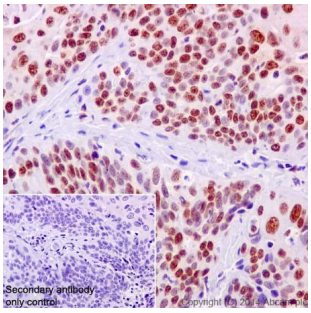


Immunocytochemistry/ Immunofluorescence - Anti-KAT8 / MYST1 / MOF antibody [EPR15803] - BSA and Azide free (ab240355)

KAT8 / MYST1 / MOF Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-KAT8 / MYST1 / MOF antibody

Immunofluorescent analysis of 4% paraformaldehyde-fixed, 0.1% Triton X-100 permeabilized HeLa (Human epithelial cells from cervix adenocarcinoma) cells labeling KAT8 / MYST1 / MOF with ab200660 at 1/2000 dilution, followed by Goat Anti-Rabbit IgG (Alexa Fluor® 488) (ab150077) secondary antibody at 1/500 dilution (green). Confocal image showing nuclear staining on HeLa cell line. The nuclear counter stain is DAPI (blue).
Tubulin is detected with Anti-alpha Tubulin mouse MAb (ab7291) at 1/1000 dilution, followed by Goat Anti-Mouse IgG H&L (Alexa Fluor® 594) (ab150120) secondary antibody at 1/500 dilution (red).
The negative controls are as follows:
-ve control 1: ab200660 at 1/2000 dilution, followed by Goat Anti-Mouse IgG H&L (Alexa Fluor® 594) (ab150120) secondary at 1/500 dilution.
-ve control 2: Anti-alpha Tubulin mouse MAb (ab7291) at 1/1000 dilution, followed by Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) (ab150077) secondary at 1/500 dilution.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab200660).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-KAT8 / MYST1 / MOF antibody [EPR15803] - BSA and Azide free (ab240355)

KAT8 / MYST1 / MOF Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-KAT8 / MYST1 / MOF antibody

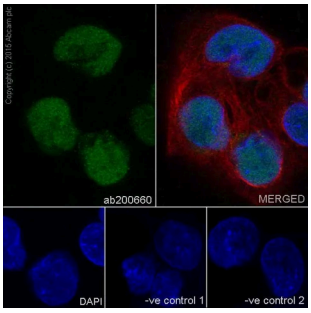
Immunohistochemical analysis of paraffin-embedded human cervix carcinoma tissue labeling KAT8 / MYST1 / MOF with ab200660 at 1/500 dilution, followed by Goat Anti-Rabbit IgG H&L (HRP) (ab97051) secondary antibody at 1/500 dilution.
Nuclear staining on human cervix carcinoma tissue is observed.

Counter stained with Hematoxylin.

Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/500 dilution.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab200660).

Perform heat mediated antigen retrieval with EDTA buffer pH 9 before commencing with IHC staining protocol.

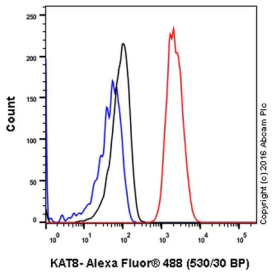


Immunocytochemistry/ Immunofluorescence - Anti-KAT8 / MYST1 / MOF antibody [EPR15803] - BSA and Azide free (ab240355)

KAT8 / MYST1 / MOF Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-KAT8 / MYST1 / MOF antibody

Immunofluorescent analysis of 4% paraformaldehyde-fixed, 0.1% Triton X-100 permeabilized HepG2 (Human liver hepatocellular carcinoma) cells labeling KAT8 / MYST1 / MOF with ab200660 at 1/2000 dilution, followed by Goat Anti-Rabbit IgG (Alexa Fluor® 488) (ab150077) secondary antibody at 1/500 dilution (green). Confocal image showing nuclear staining on HepG2 cell line. The nuclear counter stain is DAPI (blue).
Tubulin is detected with Anti-alpha Tubulin mouse MAb (ab7291) at 1/1000 dilution, followed by Goat Anti-Mouse IgG H&L (Alexa Fluor® 594) (ab150120) secondary antibody at 1/500 dilution (red).
The negative controls are as follows:
-ve control 1: ab200660 at 1/2000 dilution, followed by Goat Anti-Mouse IgG H&L (Alexa Fluor® 594) (ab150120) secondary at 1/500 dilution.
-ve control 2: Anti-alpha Tubulin mouse MAb (ab7291) at 1/1000 dilution, followed by Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) (ab150077) secondary at 1/500 dilution.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab200660).



Flow Cytometry (Intracellular) - Anti-KAT8 / MYST1 / MOF antibody [EPR15803] - BSA and Azide free (ab240355)

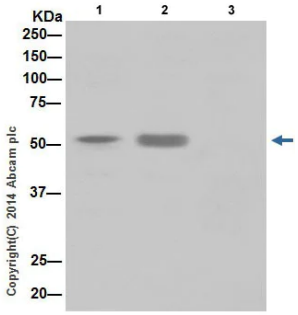
KAT8 / MYST1 / MOF Flow Cytometry (Intracellular) staining using rabbit Anti-KAT8 / MYST1 / MOF antibody

ab200660 staining KAT8 in the human cell line HepG2 (human hepatocellular carcinoma) by intracellular flow cytometry. Cells were fixed with 4% paraformaldehyde and the sample was incubated with the primary antibody at a dilution of 1/200. A goat anti rabbit IgG (Alexa Fluor® 488) at a dilution of 1/2000 was used as the secondary antibody.

Isoytype control: Rabbit monoclonal IgG (Black)

Unlabelled control: Cell without incubation with primary antibody and secondary antibody (Blue)

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab200660).



Immunoprecipitation - Anti-KAT8 / MYST1 / MOF antibody [EPR15803] - BSA and Azide free (ab240355)

KAT8 / MYST1 / MOF was immunoprecipitated from 1mg of HeLa (Human epithelial cells from cervix adenocarcinoma) whole cell lysate with ab200660 at 1/170 dilution.
Western blot was performed from the immunoprecipitate using ab200660 at 1/1000 dilution.

Anti-Rabbit IgG (HRP), specific to the non-reduced form of IgG, was used as secondary antibody at 1/1500 dilution.

Lane 1: HeLa whole cell lysate 10 µg (Input).

Lane 2: ab200660 IP in HeLa whole cell lysate.

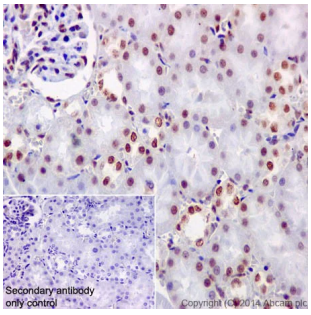
Lane 3: Rabbit monoclonal IgG (ab172730) instead of ab200660 in HeLa whole cell extract.

Blocking and dilution buffer and concentration: 5% NFDM/TBST.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab200660).

All lanes:
Immunoprecipitation - Anti-KAT8 / MYST1 / MOF antibody [EPR15803] (ab200660)

Predicted band size: 52 kDa



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-KAT8 / MYST1 / MOF antibody [EPR15803] - BSA and Azide free (ab240355)

KAT8 / MYST1 / MOF Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-KAT8 / MYST1 / MOF antibody

Immunohistochemical analysis of paraffin-embedded rat kidney tissue labeling KAT8 / MYST1 / MOF with ab200660 at 1/500 dilution, followed by Goat Anti-Rabbit IgG H&L (HRP) (ab97051) secondary antibody at 1/500 dilution.
Nuclear staining on rat kidney tissue is observed.

Counter stained with Hematoxylin.

Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/500 dilution.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab200660).

Perform heat mediated antigen retrieval with EDTA buffer pH 9 before commencing with IHC staining protocol.

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