


Product datasheet

Anti-KAT13D / CLOCK antibody ab93804

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Overview

Product name	Anti-KAT13D / CLOCK antibody
Description	Rabbit polyclonal to KAT13D / CLOCK
Host species	Rabbit
Tested applications	Suitable for: WB, IP
Species reactivity	Reacts with: Mouse, Human Predicted to work with: Guinea pig, Chimpanzee, Rhesus monkey, Gorilla, Orangutan 
Immunogen	Synthetic peptide. This information is proprietary to Abcam and/or its suppliers.
Positive control	HeLa, 293T and NIH3T3 whole cell lysate
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. Upon delivery aliquot and store at -20°C. Avoid freeze / thaw cycles.
Storage buffer	pH: 7 Preservative: 0.09% Sodium azide Constituent: Tris citrate/phosphate
Purity	Immunogen affinity purified
Purification notes	ab93804 was affinity purified using an epitope specific to KAT13D/CLOCK immobilized on solid support.
Clonality	Polyclonal
Isotype	IgG

Applications

Applications

The Abpromise guarantee Our [Abpromise guarantee](#) covers the use of ab93804 in the following tested applications.

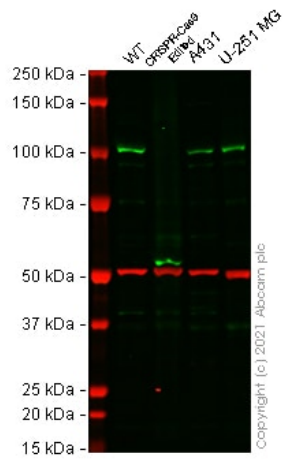
The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
WB		1/2000 - 1/10000. Predicted molecular weight: 95 kDa.
IP		Use a concentration of 2 - 5 µg/ml.

Target

Function	ARNTL/2-CLOCK heterodimers activate E-box element (3'-CACGTG-5') transcription of a number of proteins of the circadian clock. Activates transcription of PER1 and PER2. This transcription is inhibited in a feedback loop by PER and CRY proteins. Has intrinsic histone acetyltransferase activity and this enzymatic function contributes to chromatin-remodeling events implicated in circadian control of gene expression (By similarity). Acetylates primarily histones H3 and H4 (By similarity). Acetylates also a non-histone substrate: ARNTL.
Tissue specificity	Expressed in all tissues examined including spleen, thymus, prostate, testis, ovary, small intestine, colon, leukocytes, heart, brain, placenta, lung, liver, skeletal muscle, kidney and pancreas. Highest levels in testis and skeletal muscle. Low levels in thymus, lung and liver. Expressed in all brain regions with highest levels in cerebellum. Highly expressed in the suprachiasmatic nucleus (SCN).
Sequence similarities	Contains 1 basic helix-loop-helix (bHLH) domain. Contains 1 PAC (PAS-associated C-terminal) domain. Contains 2 PAS (PER-ARNT-SIM) domains.
Post-translational modifications	Phosphorylation is dependent on CLOCK-ARNTL heterodimer formation.
Cellular localization	Cytoplasm. Nucleus. Shuffling between the cytoplasm and the nucleus is under circadian regulation and is ARNTL-dependent. Phosphorylated form located in the nucleus.

Images



Western blot - Anti-KAT13D / CLOCK antibody (ab93804)

All lanes : Anti-KAT13D / CLOCK antibody (ab93804) at 1/2000 dilution

Lane 1 : Wild-type HeLa cell lysate

Lane 2 : CLOCK CRISPR-Cas9 edited HeLa cell lysate

Lane 3 : A431 cell lysate

Lane 4 : U-251 MG cell lysate

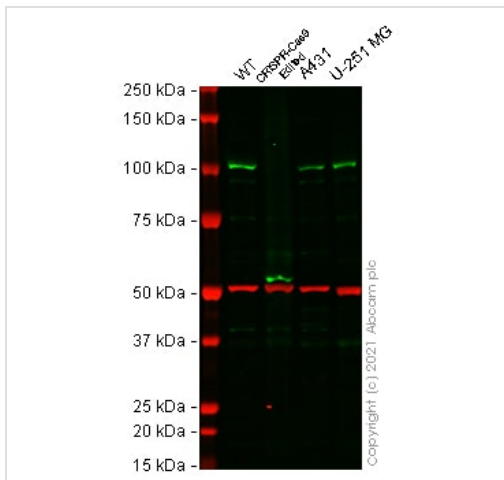
Lysates/proteins at 20 µg per lane.

Performed under reducing conditions.

Predicted band size: 95 kDa

Observed band size: 100 kDa

False colour image of Western blot: Anti-KAT13D / CLOCK antibody staining at 1/2000 dilution, shown in green; Mouse anti-Alpha Tubulin [DM1A] (ab7291) loading control staining at 1/20000 dilution, shown in red. In Western blot, ab93804 was shown to bind specifically to KAT13D / CLOCK. A band was observed at 100 kDa in wild-type HeLa cell lysates with no signal observed at this size in CLOCK CRISPR-Cas9 edited cell line ab266054 (CRISPR-Cas9 edited cell lysate ab258365). The band observed in the CRISPR-Cas9 edited lysate lane below 100 kDa is likely to represent a truncated form of KAT13D / CLOCK. This has not been investigated further and the functional properties of the gene product have not been determined. To generate this image, wild-type and CLOCK CRISPR-Cas9 edited HeLa cell lysates were analysed. First, samples were run on an SDS-PAGE gel then transferred onto a nitrocellulose membrane. Membranes were blocked in 5 % milk in TBS-0.1 % Tween[®] 20 (TBS-T) before incubation with primary antibodies overnight at 4 °C. Blots were washed four times in TBS-T, incubated with secondary antibodies for 1 h at room temperature, washed again four times then imaged. Secondary antibodies used were Goat anti-Rabbit IgG H&L (IRDye[®] 800CW) preabsorbed (ab216773) and Goat anti-Mouse IgG H&L (IRDye[®] 680RD) preabsorbed (ab216776) at 1/20000 dilution.



Western blot - Anti-KAT13D / CLOCK antibody (ab93804)

All lanes : Anti-KAT13D / CLOCK antibody (ab93804) at 1/2000 dilution

Lane 1 : Wild-type HeLa cell lysate

Lane 2 : CLOCK CRISPR-Cas9 edited HeLa cell lysate

Lane 3 : A431 cell lysate

Lane 4 : U-251 MG cell lysate

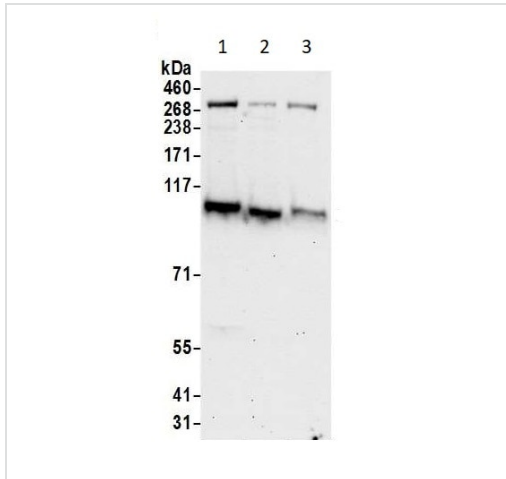
Lysates/proteins at 20 µg per lane.

Performed under reducing conditions.

Predicted band size: 95 kDa

Observed band size: 100 kDa

False colour image of Western blot: Anti-KAT13D / CLOCK antibody staining at 1/2000 dilution, shown in green; Mouse anti-Alpha Tubulin [DM1A] (ab7291) loading control staining at 1/20000 dilution, shown in red. In Western blot, ab93804 was shown to bind specifically to KAT13D / CLOCK. A band was observed at 100 kDa in wild-type HeLa cell lysates with no signal observed at this size in CLOCK CRISPR-Cas9 edited cell line ab265301 (CRISPR-Cas9 edited cell lysate ab258364). The band observed in the CRISPR-Cas9 edited lysate lane below 100 kDa is likely to represent a truncated form of KAT13D / CLOCK. This has not been investigated further and the functional properties of the gene product have not been determined. To generate this image, wild-type and CLOCK CRISPR-Cas9 edited HeLa cell lysates were analysed. First, samples were run on an SDS-PAGE gel then transferred onto a nitrocellulose membrane. Membranes were blocked in 5 % milk in TBS-0.1 % Tween[®] 20 (TBS-T) before incubation with primary antibodies overnight at 4 °C. Blots were washed four times in TBS-T, incubated with secondary antibodies for 1 h at room temperature, washed again four times then imaged. Secondary antibodies used were Goat anti-Rabbit IgG H&L (IRDye[®] 800CW) preabsorbed (ab216773) and Goat anti-Mouse IgG H&L (IRDye[®] 680RD) preabsorbed (ab216776) at 1/20000 dilution.



Western blot - Anti-KAT13D / CLOCK antibody (ab93804)

All lanes : Anti-KAT13D / CLOCK antibody (ab93804) at 0.1 $\mu\text{g/ml}$

Lane 1 : HeLa cell lysate

Lane 2 : HEK293T cell lysate

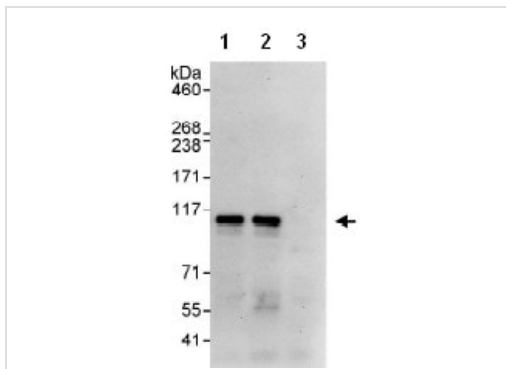
Lane 3 : NIH3T3 cell lysate

Lysates/proteins at 50 μg per lane.

Predicted band size: 95 kDa

Exposure time: 30 seconds

Detection: Chemiluminescence



Immunoprecipitation - Anti-KAT13D / CLOCK antibody (ab93804)

ab93804 at 1 $\mu\text{g/ml}$ detecting KAT13D/CLOCK in HeLa whole cell lysate by WB following IP.

Lane 1: IP with an antibody which recognizes an upstream epitope of KAT13D/CLOCK

Lane 2: ab93804 at 3 $\mu\text{g/mg}$ of lysate

Lane 3: control IgG.

In each case, 1 mg of lysate was used for IP and 20% of the IP was loaded.

Detection: Chemiluminescence with an exposure time of 30 seconds

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