abcam

ab274416

Anti-SET7 antibody [EPR23775-142]

Recombinant | RabMAb | KO Validated | 20ul selling size

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	Preservative: 0.01% Sodium azide Constituents: PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	EPR23775-142
Purification technique	Affinity purification Protein A
Concentration	0.516 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/500
Notes	-

Expected

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

ICC/IF

Not recommended

Species	Mouse, Rat, Human
Dilution info	-
Notes	-

IP

Not recommended

Species	Mouse, Rat, Human
Dilution info	-
Notes	-

WB

Tested

Species	Human
Dilution info	1/1000
Notes	-

Species	Mouse
Dilution info	1/1000
Notes	-

Species	Rat
Dilution info	1/1000
Notes	-

IHC-P

Not recommended

Species	Mouse, Rat, Human
Dilution info	-
Notes	-

Target data

See full target information SETD7

Function	Histone methyltransferase that specifically monomethylates 'Lys-4' of histone H3 (PubMed:11779497, PubMed:11850410, PubMed:12540855, PubMed:12588998, PubMed:16141209). H3 'Lys-4' methylation represents a specific tag for epigenetic transcriptional activation (PubMed:12540855, PubMed:12588998, PubMed:16141209). Plays a central role in the transcriptional activation of genes such as collagenase or insulin (PubMed:12588998, PubMed:16141209). Recruited by IPF1/PDX-1 to the insulin promoter, leading to activate transcription (PubMed:16141209). Also has methyltransferase activity toward non-histone proteins such as CGAS, p53/TP53, TAF10, and possibly TAF7 by recognizing and binding the [KR]-[STA]-K in substrate proteins (PubMed:15099517, PubMed:15525938, PubMed:16415881, PubMed:35210392). Monomethylates 'Lys-189' of TAF10, leading to increase the affinity of TAF10 for RNA polymerase II (PubMed:15099517, PubMed:16415881). Monomethylates 'Lys-372' of p53/TP53, stabilizing p53/TP53 and increasing p53/TP53-mediated transcriptional activation (PubMed:15525938, PubMed:16415881, PubMed:17108971). Monomethylates 'Lys-491' of CGAS, promoting interaction between SGF29 and CGAS (By similarity).

Storage

Shipped at conditions	Conditional Ambient
Appropriate short-term storage duration	1-2 weeks
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

Notes

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.

Supplementary info

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

Activity summary	SET7 also known as SETD7 or KMT7 is a lysine methyltransferase that adds methyl groups to lysine residues on target proteins influencing their function and stability. This protein has a molecular mass of approximately 55 kDa. SET7 is expressed in a variety of tissues including the heart liver and pancreas suggesting its versatile role across different biological systems.
Biological function summary	SET7 contributes to gene regulation by methylating histone H3 at lysine 4 (H3K4) a mark generally associated with transcriptional activation. It also methylates non-histone proteins such as p53 TAF10 and STAT3 affecting their activity and interactions. SET7 operates distinctively and does not need to be part of any complex to fulfill its function effectively in diverse cellular processes.
Pathways	SET7 modulates transcriptional pathways such as the p53 signaling pathway and the NF-kB pathway. It interacts with the p53 protein affecting cell cycle regulation and the response to DNA damage. The modification of NF-kB by SET7 can influence inflammation and immune responses. Through these pathways SET7 plays a role in maintaining cellular homeostasis and response to stress.
Associated diseases and disorders	SET7 is involved in conditions like cancer and cardiovascular diseases. Its methylation of p53 links it to tumor suppression activities while its impact on NF-kB relates to inflammatory responses. Dysregulation of SET7 activity can lead to abnormal cell proliferation and inflammation pointing to its potential as a target for therapeutic intervention.

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.

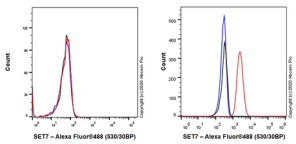
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

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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4 product images

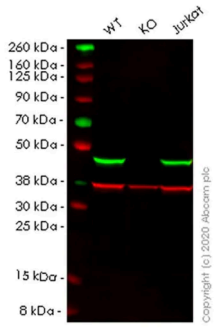


Flow Cytometry (Intracellular) - Anti-SET7 antibody [EPR23775-142] (ab274416)

SET7 Flow Cytometry (Intracellular) staining using rabbit Anti-SET7 antibody

Intracellular flow cytometric analysis of 4% paraformaldehyde fixed, 90% methanol permeabilized HepG2 (Human hepatocellular carcinoma epithelial cell, Left) / HeLa (Human cervix adenocarcinoma epithelial cell, RIght) cells labelling SET7 with ab274416 at 1/500 dilution (0.1ug) (Red) compared with a Rabbit monoclonal IgG (ab172730) isotype control (Black) and an unlabelled control (cells without incubation with primary antibody and secondary antibody) (Blue).
A Goat anti rabbit IgG (Alexa Fluor® 488, ab150077) at 1/2000 dilution was used as the secondary antibody.

Negative control: HepG2 cells.



Western blot - Anti-SET7 antibody [EPR23775-142] (ab274416)

SET7 Western blot staining using rabbit Anti-SET7 antibody

Blocking and dilution buffer: Intercept® (TBS) Blocking Buffer diluted with an equal volume of 0.1% TBST
Lanes 1-3: Merged signal (red and green). Green - ab274416 observed at 50 kDa. Red - loading control ab8245 observed at 36 kDa.

ab274416 Anti-SET7 antibody [EPR23775-142] was shown to specifically react with SET7 in wild-type HeLa cells. Loss of signal was observed when knockout cell line ab265770 (knockout cell lysate ab257668) was used. Wild-type and SET7 knockout samples were subjected to SDS-PAGE.

ab274416 and Anti-GAPDH antibody [6C5] - Loading Control (ab8245) were incubated at room temperature for 2. 5 hours at 1 in 1000 dilution and 1 in 20000 dilution respectively. Blots were developed with Goat anti-Rabbit IgG H&L (IRDye® 800CW) preadsorbed (ab216773) and Goat anti-Mouse IgG H&L (IRDye® 680RD) preadsorbed (ab216776) secondary antibodies at 1 in 20000 dilution for 1 hour at room temperature before imaging.
All lanes:
Western blot - Anti-SET7 antibody [EPR23775-142] (ab274416) at 1/1000 dilution

Lane 1:
Wild-type HeLa cell lysate at 20 µg

Lane 2:
SET7 knockout HeLa cell lysate at 20 µg

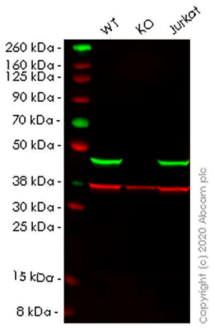
Lane 3:
Jurkat (human T cell leukemia cell line from peripheral blood) whole cell lysate at 20 µg

Secondary

All lanes:
Goat Anti-Rabbit IgG H&L (IRDye® 800CW) (ab216773) and Goat Anti-Mouse IgG H&L (IRDye® 680RD) (ab216776) at 1/10000 dilution

Predicted band size: 41 kDa

Observed band size: 50 kDa



Western blot - Anti-SET7 antibody [EPR23775-142] (ab274416)

SET7 Western blot staining using rabbit Anti-SET7 antibody

Blocking and dilution buffer: Intercept® (TBS) Blocking Buffer diluted with an equal volume of 0.1% TBST
Lanes 1-3: Merged signal (red and green). Green - ab274416 observed at 50 kDa. Red - loading control ab8245 observed at 36 kDa.

ab274416 Anti-SET7 antibody [EPR23775-142] was shown to specifically react with SET7 in wild-type HeLa cells. Loss of signal was observed when knockout cell line ab265770 (knockout cell lysate ab257668) was used. Wild-type and SET7 knockout samples were subjected to SDS-PAGE. ab274416 and Anti-GAPDH antibody [6C5] - Loading Control (ab8245) were incubated at room temperature for 2. 5 hours at 1 in 1000 dilution and 1 in 20000 dilution respectively. Blots were developed with Goat anti-Rabbit IgG H&L (IRDye® 800CW) preadsorbed (ab216773) and Goat anti-Mouse IgG H&L (IRDye® 680RD) preadsorbed (ab216776) secondary antibodies at 1 in 20000 dilution for 1 hour at room temperature before imaging.

All lanes:
Western blot - Anti-SET7 antibody [EPR23775-142] (ab274416) at 1/1000 dilution

Lane 1:
Wild-type HeLa cell lysate at 20 µg

Lane 2:
SET7 knockout HeLa cell lysate at 20 µg

Lane 2:
Western blot - Human SETD7 (SET7) knockout HeLa cell line (ab265770)

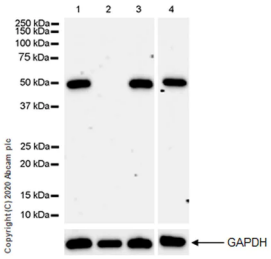
Lane 3:
Jurkat (human T cell leukemia cell line from peripheral blood) whole cell lysate at 20 µg

Secondary

All lanes:
Goat Anti-Rabbit IgG H&L (IRDye® 800CW) (ab216773) and Goat Anti-Mouse IgG H&L (IRDye® 680RD) (ab216776) at 1/10000 dilution

Predicted band size: 41 kDa

Observed band size: 50 kDa



Western blot - Anti-SET7 antibody [EPR23775-142] (ab274416)

Blocking and dilution buffer: 5% NFDM/TBST.
Exposure time: 3 minutes.

Negative control: HepG2 (PMID:27183310).

All lanes:
Western blot - Anti-SET7 antibody [EPR23775-142] (ab274416) at 1/1000 dilution

Lane 1:
HeLa (human cervix adenocarcinoma epithelial cell) whole cell lysate at 20 µg

Lane 2:
HepG2 (human hepatocellular carcinoma epithelial cell) whole cell lysate at 20 µg

Lane 3:
NIH/3T3 (mouse embryonic fibroblast) whole cell lysate at 20 µg

Lane 4:
C6 (rat glial tumor glial cell) whole cell lysate at 20 µg

Secondary

All lanes:
Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated (ab97051) at 1/20000 dilution

Predicted band size: 41 kDa

Observed band size: 50 kDa

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