abcam

ab14820

Anti-SET7 antibody [s4E5]

Key facts

Isotype	IgG2b
Host species	Mouse
Storage buffer	pH: 7.4 Preservative: 0.02% Sodium azide Constituents: PBS, 10% Glycerol (glycerin, glycerine)
Form	Liquid
Clonality	Monoclonal
Immunogen	Recombinant Full Length Protein corresponding to Human SETD7. Database link Q8WTS6
Clone number	s4E5
Purification technique	Affinity purification Protein A
Specificity	This antibody has been tested against recombinant SET7 but has not been tested against the endogenous protein yet.
Light chain type	kappa
Concentration	1 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →
Purification notes	Purified from TCS.

Reactivity data

WB

Tested

Species	Recombinant full length protein
Dilution info	1/250 - 1/2000
Notes	-

Species	Human
Dilution info	1/250 - 1/2000
Notes	-

Expected

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

ICC/IF

Tested

Species	Mouse, Human
Dilution info	-
Notes	-

Not recommended

Species	Recombinant full length protein
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1 µg/cells for 6 µg/cells
Notes	ab170192 - Mouse monoclonal IgG2b, is suitable for use as an isotype control with this antibody.

Expected

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

Not recommended

Species	Recombinant full length protein
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	Blue Ice
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

This product was changed from ascites to tissue culture supernatant on 24/01/2019. Please note that the dilutions may need to be adjusted accordingly. If you have any questions, please do not hesitate to contact our scientific support team.

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.

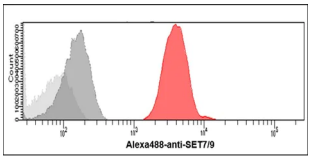
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

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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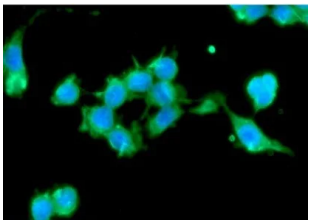
6 product images



Flow Cytometry (Intracellular) - Anti-SET7 antibody [s4E5] (ab14820)

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

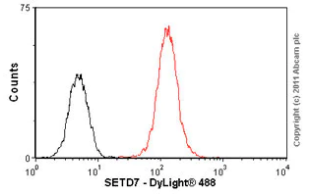
Flow cytometry analysis of SET7/9 in Jurkat cells. The cell was stained with ab14820 at 2-5µg for 1x10^6 cells (red). A Goat anti mouse IgG (Alexa fluor 488) was used as the secondary antibody. Mouse monoclonal IgG was used as the isotype control (blue), cells without incubation with primary and secondary antibody was used as the negative control (black).



Immunocytochemistry/ Immunofluorescence - Anti-SET7 antibody [s4E5] (ab14820)

SET7 Immunocytochemistry/ Immunofluorescence staining using mouse Anti-SET7 antibody

Immunocytochemistry/ Immunofluorescence analysis of SET7/9 in HeLa cells. The cell was stained with ab14820 (1:100). The secondary antibody (green) was used Alexa Fluor 488. DAPI was stained the cell nucleus (blue).



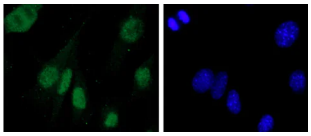
Flow Cytometry (Intracellular) - Anti-SET7 antibody [s4E5] (ab14820)

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

Overlay histogram showing HeLa cells stained with ab14820 (red line). The cells were fixed with 80% methanol (5 min) and then permeabilized with 0.1% PBS-Tween for 20 min. The cells were then incubated in 1x PBS / 10% normal goat serum / 0.3M glycine to block non-specific protein-protein interactions. The cells were then incubated with the antibody (ab14820, 1µg/1x10^6 cells) for 30 min at 22°C. The secondary antibody used was DyLight® 488 goat anti-mouse IgG (H+L) (ab96879) at 1/500 dilution for 30 min at 22°C. Isotype control antibody (black line) was mouse IgG2b [PLPV219] (ab91366, 2µg/1x10^6 cells) used under the same conditions. Acquisition of >5,000

events was performed. This antibody gave a positive signal in HeLa cells fixed with 4% paraformaldehyde (10 min)/permeabilized in 0.1% PBS-Tween used under the same conditions.

This image was produced using the ascites version of this antibody.

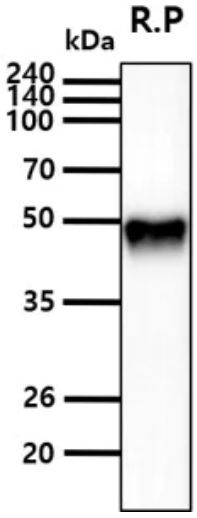


This image is courtesy of Katia Ancelin

Immunocytochemistry/ Immunofluorescence - Anti-SET7 antibody [s4E5] (ab14820)

SET7 Immunocytochemistry/ Immunofluorescence staining using mouse Anti-SET7 antibody

Immunoflouresence was carried out using mouse cells in culture. Conditions: 4% PFA fixation and dilution with 0.5% triton, 10mg/ml BSA in PBS. Dilution of ab14820 used: 1/50. Green = ab14820 detected with secondary antibody (Alexa 488). Blue = DAPI stain.
This image was produced using the ascites version of this antibody.



Western blot - Anti-SET7 antibody [s4E5] (ab14820)

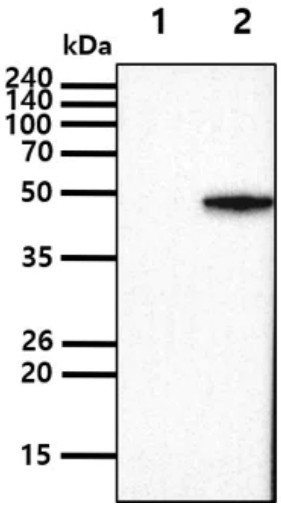
All lanes:
Western blot - Anti-SET7 antibody [s4E5] (ab14820) at 1/1000 dilution

All lanes:
Recombinant human SET7/9 protein

Secondary

All lanes:
Goat anti-mouse secondary antibody conjugated to HRP

Predicted band size: 41 kDa



Western blot - Anti-SET7 antibody [s4E5] (ab14820)

All lanes:
Western blot - Anti-SET7 antibody [s4E5] (ab14820) at 1/2000 dilution

Lane 1:
293T cell lysate at 5 µg

Lane 2:
SET7/9 transfected 293T cell lysate at 5 µg

Secondary

All lanes:
goat anti-mouse secondary antibody conjugated to HRP

Predicted band size: 41 kDa

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