abcam

ab56919

Anti-WDR5 antibody [2C2]

Key facts

Isotype	IgG2b
Host species	Mouse
Storage buffer	pH: 7.4
Form	Liquid
Clonality	Monoclonal
Immunogen	Recombinant Fragment Protein within Human WDR5 aa 1-150. The exact immunogen used to generate this antibody is proprietary information. Database link P61964
Clone number	2C2
Purity	Tissue culture supernatant
Light chain type	kappa
Purification notes	Purified from TCS.

Reactivity data

ChIP

Expected

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

Flow Cyt

Tested

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

WB

Tested

Species	Human
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	-
Notes	-

Target data

See full target information WDR5

Function Contributes to histone modification (PubMed:16600877, PubMed:16829960, PubMed:19103755, PubMed:19131338, PubMed:19556245, PubMed:20018852). May position the N-terminus of histone H3 for efficient trimethylation at 'Lys-4' (PubMed:16829960). As part of the MLL1/MLL complex it is involved in methylation and dimethylation at 'Lys-4' of histone H3 (PubMed:19556245). H3 'Lys-4' methylation represents a specific tag for epigenetic transcriptional activation (PubMed:18840606). As part of the NSL complex it may be involved in acetylation of nucleosomal histone H4 on several lysine residues (PubMed:19103755, PubMed:20018852). May regulate osteoblasts differentiation (By similarity). In association with RBBP5 and ASH2L, stimulates the histone methyltransferase activities of KMT2A, KMT2B, KMT2C, KMT2D, SETD1A and SETD1B (PubMed:21220120, PubMed:22266653).

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 24/1/19. 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	WDR5 also known as WD repeat domain 5 is an important component in the regulation of gene expression. It has a molecular mass of approximately 36 kDa. This protein is widely expressed across various tissues with significant expression in the nucleus. WDR5 primarily functions as a scaffolding protein facilitating the assembly of multiprotein complexes that modify chromatin structure and function. Its involvement in chromatin regulation highlights its mechanical role in modulating access to DNA for transcriptional machinery.
Biological function summary	WDR5 plays a significant role in epigenetic regulation by being part of the histone methyltransferase complex associated with MLL (Mixed Lineage Leukemia). This complex is responsible for the methylation of histone H3 at lysine 4 (H3K4) an essential modification for transcriptional activation. WDR5's interaction with MLL complex components influences gene expression importantly during development and cellular differentiation. Its presence in the MLL complex connects it to pathways that govern cell cycle regulation and stem cell maintenance.
Pathways	WDR5 functions within key pathways such as the chromatin modification pathway and the WNT signaling pathway. In these settings WDR5 interacts with proteins like MLL and BRG1 which contribute to its role in gene regulation and chromatin remodeling. Through these interactions WDR5 modulates the transcription of target genes impacting cellular processes like proliferation and differentiation.

Associated diseases and disorders	WDR5 has shown involvement in certain cancers and neurodevelopmental disorders. Its dysregulation is linked to leukemia specifically in cases where MLL rearrangements alter its normal function. Additionally aberrant expression of WDR5 may influence neurodevelopmental disorders though its precise role requires more research. In the context of leukemia WDR5's interaction with proteins such as DOT1L and MEN1 supports the proliferation of leukemic cells. Understanding the involvement of WDR5 in these conditions can offer insights into therapeutic targets for disease 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

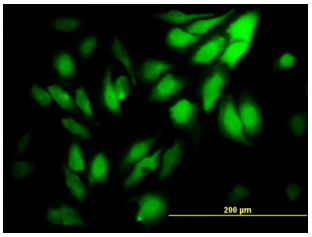
We do not recommend this combination. It is not covered by our product promise.

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.

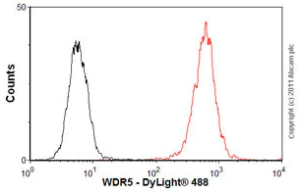
5 product images



Immunocytochemistry/ Immunofluorescence - Anti-WDR5 antibody [2C2] (ab56919)

WDR5 Immunocytochemistry/ Immunofluorescence staining using mouse Anti-WDR5 antibody

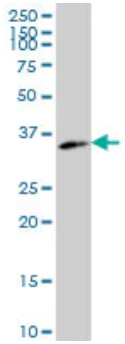
HeLa (human epithelial cell line from cervix adenocarcinoma) cells stained for WDR5 (green) using ab56919 at 10 µg/ml in ICC/IF.
This image was generated using the ascites version of the product.



Flow Cytometry - Anti-WDR5 antibody [2C2] (ab56919)

WDR5 Flow Cytometry staining using mouse Anti-WDR5 antibody

Overlay histogram showing HeLA cells stained with ab56919 (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 followed by the antibody (ab56919, 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/permeabilized in 0.1% PBS-Tween used under the same conditions.
This image was generated using the ascites version of the product.



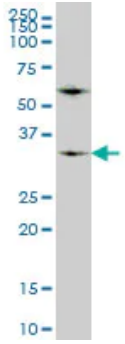
Western blot - Anti-WDR5 antibody [2C2] (ab56919)

WDR5 Western blot staining of Hs 181.Tes cell lysate using mouse Anti-WDR5 antibody

This image was generated using the ascites version of the product.
All lanes:
Western blot - Anti-WDR5 antibody [2C2] (ab56919) at 1 µg/mL

All lanes:
Hs 181.Tes cell lysate

Predicted band size: 36 kDa



Western blot - Anti-WDR5 antibody [2C2] (ab56919)

WDR5 Western blot staining using mouse Anti-WDR5 antibody

WDR5 antibody (ab56919) at 1µg/lane + Hs 181 S cell lysate at 25µg/lane.
This image was generated using the ascites version of the product.

All lanes:
Western blot - Anti-WDR5 antibody [2C2] (ab56919)

Predicted band size: 36 kDa

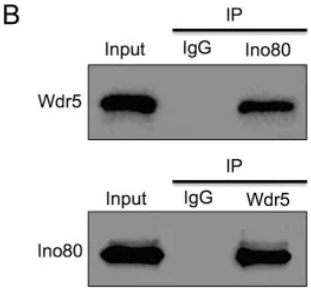


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Western blot - Anti-WDR5 antibody [2C2] (ab56919)

WDR5 western blot using anti-WDR5 antibody [2C2] ab56919. Publication image and figure legend from Zhou, C., Zou, J., et al., 2016, Sci Rep, PubMed 27804957.

ab56919 was used in this publication in western blot. This may not be the same as the application(s) guaranteed by Abcam. For a full list of applications guaranteed by Abcam for ab56919 please see the product overview.

INO80 interacts with Wdr5 in MSC.(A) Wdr5 is decreased in INO80-silencing MSC compared with control MSC. (B) Interaction between INO80 and Wdr5. MSC lysates were sonicated and incubated with IgG or Ino80 or Wdr5 antibodies, and the presence of Ino80 or Wdr5 in the copurified proteins were detected with western blot.

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