abcam

ab307554

Anti-Swd2 antibody [EPR27034-63]

Recombinant | RabMAb | 20ul selling size

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 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	EPR27034-63
Purification technique	Affinity purification Protein A
Concentration	0.55 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IP

Tested

Species	Mouse
Dilution info	1/30
Notes	-

Species	Human

Dilution info	1/30
Notes	-

Expected

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

Flow Cyt (Intra)

Tested

Species	Mouse
Dilution info	1/500
Notes	-

Species	Human
Dilution info	1/500
Notes	-

Expected

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

ICC/IF

Tested

Species	Mouse
Dilution info	1/50
Notes	-

Species	Human
Dilution info	1/50

Notes	-

Expected

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

IHC-P

Tested

Species	Rat
Dilution info	1/500 - 1/2000
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Species	Mouse
Dilution info	1/500 - 1/2000
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Species	Human
Dilution info	1/500 - 1/2000
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

WB

Tested

Species	Rat
Dilution info	1/1000
Notes	-

Species	Mouse
Dilution info	1/1000

Notes	-

Species	Human
Dilution info	1/1000
Notes	-

Target data

See full target information WDR82

Function	Regulatory component of the SET1/COMPASS complex implicated in the tethering of this complex to transcriptional start sites of active genes (PubMed:17998332, PubMed:18838538, PubMed:20516061). Facilitates histone H3 'Lys-4' methylation (H3K4me) via recruitment of the SETD1A or SETD1B to the 'Ser-5' phosphorylated C-terminal domain (CTD) of RNA polymerase II large subunit (POLR2A) (PubMed:17998332, PubMed:18838538). Component of the PNUTS-PP1 protein phosphatase complex, a protein phosphatase 1 (PP1) complex that promotes RNA polymerase II transcription pause-release, allowing transcription elongation (PubMed:39603240, PubMed:39603239). PNUTS-PP1 also plays a role in the control of chromatin structure and cell cycle progression during the transition from mitosis into interphase (PubMed:20516061). Together with ZC3H4, but independently of the SET1 complex, part of a transcription termination checkpoint that promotes transcription termination of long non-coding RNAs (lncRNAs) (PubMed:33767452, PubMed:33913806). The transcription termination checkpoint is activated by the inefficiently spliced first exon of lncRNAs and promotes transcription termination of lncRNAs and their subsequent degradation by the exosome (PubMed:33767452).

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	Swd2 also known as Cwc21 or Swd2p is a protein that functions as a regulatory component in RNA splicing and transcription. This protein has a mass of approximately 47 kDa and is primarily expressed in the nucleus of eukaryotic cells. Swd2 associates with the spliceosome and transcription-related complexes playing a role in coordinating transcription and processing of RNA. Understanding its precise mechanical role is key to appreciate its broader biological implications.
Biological function summary	Swd2 operates as part of the COMPASS complex a multiprotein assembly involved in histone modification. This complex methylates histone H3 at lysine 4 (H3K4) influencing chromatin structure and gene expression regulation. Swd2 contributes to the function of the spliceosome by interacting with core splicing machinery components aiding the removal of introns from pre-mRNA. Its activity affects gene expression patterns linking transcription processes with RNA maturation in the cell.
Pathways	Swd2 is integral within two major biological pathways: RNA splicing and chromatin modification. Through RNA splicing it assists with the precise excision of introns interacting with proteins like Prp19. In the chromatin modification pathway it acts as part of the COMPASS complex which involves Set1 in the methylation of H3K4. This methylation is critical for chromatin remodeling therefore impacting transcription regulation and gene silencing.
Associated diseases and disorders	Researchers have noted associations between Swd2's function and certain cancers and neurodegenerative disorders. Aberrations in RNA splicing regulation where Swd2 is involved may contribute to oncogenesis. Altered Swd2 expression or function can disrupt the careful balance required for normal cell proliferation. Increased aberrant splicing or disrupted trimethylation at H3K4 potentially linked to Set1 may lead to pathways involved in these disorders. Understanding Swd2's pathways could be important for therapeutic exploration.

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.

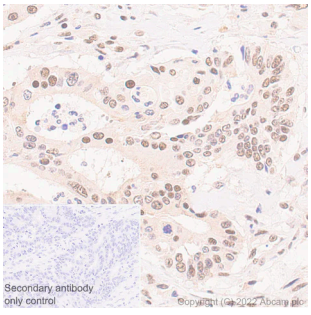
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

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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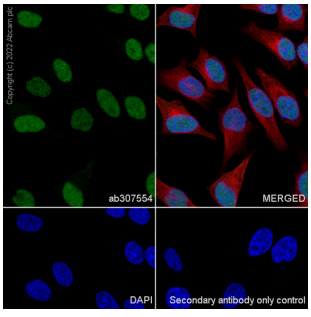
12 product images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Swd2 antibody [EPR27034-63] (ab307554)

Immunohistochemical analysis of paraffin-embedded Human colon cancer tissue labeling Swd2 with ab307554 at 1/500 (1.1 ug/ml) followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection) was used. Nuclear staining on human colon cancer (PMID: 30008910). The section was incubated with ab307554 for 30 mins at room temperature.The immunostaining was performed on a Leica Biosystems BOND® RX instrument Counterstained with Hematoxylin. Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection) was used. Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins

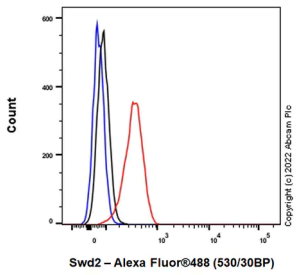
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Immunocytochemistry/ Immunofluorescence - Anti-Swd2 antibody [EPR27034-63] (ab307554)

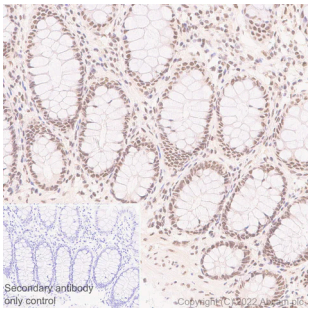
Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized HeLa (human cervix adenocarcinoma epithelial cell) cells labelling Swd2 with ab307554 at 1/50 (11.0 ug/ml) dilution, followed by ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed antibody at 1/1000 2 ug/ml dilution (Green). Confocal image showing nuclear staining in HeLa cell line.Image was taken with a confocal microscope(Leica-Microsystems, TCS SP8). ab195889 Anti-

alpha Tubulin mouse monoclonal antibody - Microtubule Marker (Alexa Fluor® 594) was used to counterstain tubulin at 1/200 2.5ug/ml dilution (Red). The Nuclear counterstain was DAPI (Blue). Secondary antibody only control: Secondary antibody is ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed at 1/1000 2 ug/ml dilution.



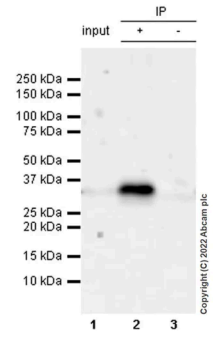
Flow Cytometry (Intracellular) - Anti-Swd2 antibody [EPR27034-63] (ab307554)

Flow cytometric analysis of 4% paraformaldehyde fixed 90% methanol permeabilized HeLa (human cervix adenocarcinoma epithelial cell) cells labelling Swd2 with ab307554 at 1/500 dilution (0.1ug) (Red) (Red) compared with a Rabbit monoclonal IgG (ab172730) (Black) isotype control and an unlabelled control (cells without incubation with primary antibody and secondary antibody) (Blue). A Goat Anti-Rabbit IgG (Alexa Fluor® 488, ab150081) at 1/2000 dilution was used as the secondary antibody.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Swd2 antibody [EPR27034-63] (ab307554)

Immunohistochemical analysis of paraffin-embedded Human colon tissue labeling Swd2 with ab307554 at 1/500 (1.1 ug/ml) followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection) was used. Nuclear staining on human colon (PMID: 30008910). The section was incubated with ab307554 for 30 mins at room temperature.The immunostaining was performed on a Leica Biosystems BOND® RX instrument Counterstained with Hematoxylin. Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection) was used. Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins



Immunoprecipitation - Anti-Swd2 antibody [EPR27034-63] (ab307554)

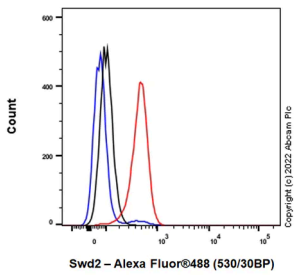
Swd2 was immunoprecipitated from 0.35 mg Human colon tissue lysate with ab307554 at 1/30 dilution (2ug in 0.35mg lysates). Western blot was performed on the immunoprecipitate using ab307554 at 1/1000 dilution. VeriBlot for IP secondary antibody(HRP)(ab131366) was used at 1/5000 dilution. Lane 1: Human colon tissue lysate Lane 2: ab307554 IP in Human colon tissue lysate Lane 3: Rabbit monoclonal IgG (ab172730) instead of ab307554 in human colon tissue lysate Blocking and dilution buffer and concentration: 5% NFDM/TBST. Exposure time: 67 seconds
All lanes:
Immunoprecipitation - Anti-Swd2 antibody [EPR27034-63] (ab307554) at 1/30 dilution

All lanes:
Human colon tissue lysate

Secondary

All lanes:
Immunoprecipitation - VeriBlot for IP Detection Reagent (HRP) (ab131366) at 1/5000 dilution

Exposure time: 67s



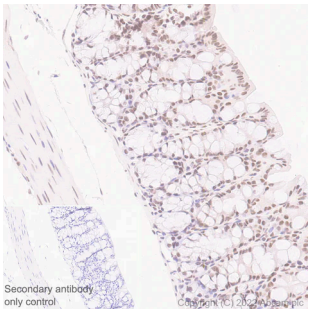
Flow Cytometry (Intracellular) - Anti-Swd2 antibody [EPR27034-63] (ab307554)

Flow cytometric analysis of 4% paraformaldehyde fixed 90% methanol permeabilized NIH/3T3 (mouse embryonic fibroblast) cells labelling Swd2 with ab307554 at 1/500 dilution (0.1ug) (Red) (Red) compared with a Rabbit monoclonal IgG (ab172730) (Black) isotype control and an unlabelled control (cells without incubation with primary antibody and secondary antibody) (Blue). A Goat Anti-Rabbit IgG (Alexa Fluor® 488, ab150081) at 1/2000 dilution was used as the secondary antibody.



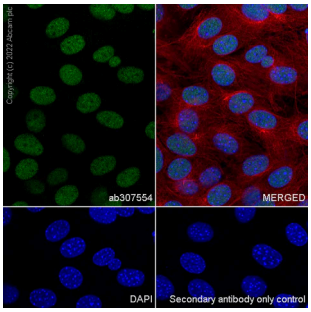
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Swd2 antibody [EPR27034-63] (ab307554)

Immunohistochemical analysis of paraffin-embedded Rat colon tissue labeling Swd2 with ab307554 at 1/2000 (0.275 ug/ml) followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection) was used. Nuclear staining on rat colon. The section was incubated with ab307554 for 30 mins at room temperature.The immunostaining was performed on a Leica Biosystems BOND® RX instrument Counterstained with Hematoxylin. Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection) was used. Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins



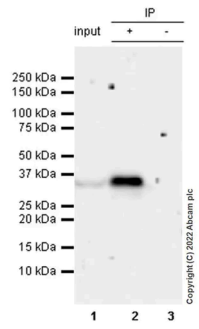
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Swd2 antibody [EPR27034-63] (ab307554)

Immunohistochemical analysis of paraffin-embedded Mouse colon tissue labeling Swd2 with ab307554 at 1/2000 (0.275 ug/ml) followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection) was used. Nuclear staining on mouse colon. The section was incubated with ab307554 for 30 mins at room temperature.The immunostaining was performed on a Leica Biosystems BOND® RX instrument Counterstained with Hematoxylin. Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection) was used. Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins



Immunocytochemistry/ Immunofluorescence - Anti-Swd2 antibody [EPR27034-63] (ab307554)

Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized NIH/3T3 (mouse embryonic fibroblast) cells labelling Swd2 with ab307554 at 1/50 (11.0 ug/ml) dilution, followed by ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed antibody at 1/1000 2 ug/ml dilution (Green). Confocal image showing nuclear staining in NIH/3T3 cell line.Image was taken with a confocal microscope(Leica-Microsystems, TCS SP8). ab195889 Anti-alpha Tubulin mouse monoclonal antibody - Microtubule Marker (Alexa Fluor® 594) was used to counterstain tubulin at 1/200 2.5ug/ml dilution (Red). The Nuclear counterstain was DAPI (Blue). Secondary antibody only control: Secondary antibody is ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed at 1/1000 2 ug/ml dilution.



Immunoprecipitation - Anti-Swd2 antibody [EPR27034-63] (ab307554)

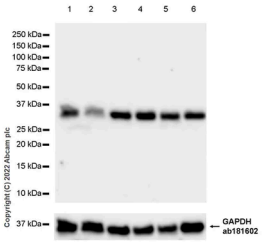
Swd2 was immunoprecipitated from 0.35 mg Mouse colon tissue lysate with ab307554 at 1/30 dilution (2ug in 0.35mg lysates). Western blot was performed on the immunoprecipitate using ab307554 at 1/1000 dilution. VeriBlot for IP secondary antibody(HRP)(ab131366) was used at 1/5000 dilution. Lane 1: Mouse colon tissue lysate Lane 2: ab307554 IP in Mouse colon tissue lysate Lane 3: Rabbit monoclonal IgG (ab172730) instead of ab307554 in mouse colon tissue lysate Blocking and dilution buffer and concentration: 5% NFDM/TBST. Exposure time: 67 seconds
All lanes:
Immunoprecipitation - Anti-Swd2 antibody [EPR27034-63] (ab307554) at 1/30 dilution

All lanes:
Mouse colon tissue lysate

Secondary

All lanes:
Immunoprecipitation - VeriBlot for IP Detection Reagent (HRP) (ab131366) at 1/5000 dilution

Exposure time: 67s



Western blot - Anti-Swd2 antibody [EPR27034-63] (ab307554)

Blocking and diluting buffer and concentration: 5% NFDM/TBST Exposure time: 27 seconds
All lanes:
Western blot - Anti-Swd2 antibody [EPR27034-63] (ab307554) at 1/1000 dilution

Lane 1:
HeLa (human cervix adenocarcinoma epithelial cell) transfected with scrambled siRNA control whole cell lysate at 20 µg

Lane 2:
HeLa transfected with siRNA specifically targeti Swd2, whole cell lysate at 20 µg

Lane 3:
HeLa whole cell lysate at 20 µg

Lane 4:
HCT116 (human colorectal carcinoma epithelial cell) whole cell lysate at 20 µg

Lane 5:
HepG2 (human hepatocellar carcinoma epithelial cell) whole cell lysate at 20 µg

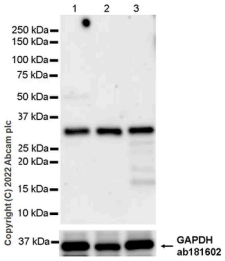
Lane 6:
NIH/3T3 (mouse embryonic fibroblast) whole cell lysate at 20 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/100000 dilution

Observed band size: 35 kDa

Exposure time: 27s



Western blot - Anti-Swd2 antibody [EPR27034-63] (ab307554)

Swd2 Western blot staining using rabbit Anti-Swd2 antibody

Blocking and diluting buffer and concentration: 5% NFDM/TBST
All lanes:
Western blot - Anti-Swd2 antibody [EPR27034-63] (ab307554) at 1/1000 dilution

Lane 1:
Human colon tissue lysate at 10 µg

Lane 2:
Mouse colon tissue lysate at 10 µg

Lane 3:
Rat colon tissue lysate at 10 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/100000 dilution

Observed band size: 35 kDa

Exposure time: 103s

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