abcam

ab51256

Anti-WSTF antibody [EP1704Y]

Recombinant | RabMAb | KO Validated

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	EP1704Y
Purification technique	Affinity purification Protein A
Concentration	0.148 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IHC-P

Tested

Species	Mouse
Dilution info	1/700
Notes	-

Species	Rat

Dilution info	1/700
Notes	-

Species	Human
Dilution info	1/700
Notes	-

WB

Tested

Species	Mouse
Dilution info	1/15000 - 1/20000
Notes	-

Species	Rat
Dilution info	1/15000 - 1/20000
Notes	-

Species	Human
Dilution info	1/15000 - 1/20000
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/50
Notes	For unpurified format use at 1/100 to 1/250 dilution

Expected

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

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/20
Notes	ab172730 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.

Expected

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

Target data

See full target information BAZ1B

Function

Atypical tyrosine-protein kinase that plays a central role in chromatin remodeling and acts as a transcription regulator (PubMed:19092802). Involved in DNA damage response by phosphorylating 'Tyr-142' of histone H2AX (H2AXY142ph) (PubMed:19092802, PubMed:19234442). H2AXY142ph plays a central role in DNA repair and acts as a mark that distinguishes between apoptotic and repair responses to genotoxic stress (PubMed:19092802, PubMed:19234442). Regulatory subunit of the ATP-dependent WICH-1 and WICH-5 ISWI chromatin remodeling complexes, which form ordered nucleosome arrays on chromatin and facilitate access to DNA during DNA-templated processes such as DNA replication, transcription, and repair (PubMed:11980720, PubMed:28801535). Both complexes regulate the spacing of nucleosomes along the chromatin and have the ability to slide mononucleosomes to the center of a DNA template (PubMed:28801535). The WICH-1 ISWI chromatin remodeling complex has a lower ATP hydrolysis rate than the WICH-5 ISWI chromatin remodeling complex (PubMed:28801535). The WICH-5 ISWI chromatin-remodeling complex regulates the transcription of various genes, has a role in RNA polymerase I transcription (By similarity). Within the B-WICH complex has a role in RNA polymerase III transcription (PubMed:16603771). Mediates the recruitment of the WICH-5 ISWI chromatin remodeling complex to replication foci during DNA replication (PubMed:15543136).

Storage

Shipped at conditions Conditional Ambient

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	WSTF also known as Williams Syndrome Transcription Factor or BAZ1B is a versatile protein with an estimated mass around 175 kDa. It is a component of the nucleosome remodeling factor (NURF) and the Williams-Beuren syndrome chromosome region 17 (WBSCR17) complex. WSTF has widespread expression in various tissues including the brain and heart which highlights its involvement in diverse cellular processes. Functionally it facilitates chromatin remodeling by altering the structure of nucleosomes which is vital for DNA accessibility in transcription DNA repair and replication.
Biological function summary	Since WSTF participates in chromatin structure modulation it plays a considerable role in transcriptional regulation. It is a part of the NURF complex which makes it essential for DNA accessibility and gene expression. The complex interacts with other proteins to allow chromatin to accommodate active transcription by repositioning nucleosomes. WSTF also has a kinase domain that phosphorylates histone H2A. This phosphorylation integrates signals that coordinate transcription and DNA damage repair mechanisms highlighting its multifunctional nature in maintaining genomic stability.
Pathways	WSTF has pivotal roles in the chromatin remodeling and DNA repair pathways. The chromatin remodeling pathway involves WSTF's interaction with the transcription

	factor complex influencing gene accessibility and expression. WSTF in the DNA repair pathway ensures proper genomic integrity through its association with proteins like BRCA1 highlighting its participation in the cellular response to DNA damage. By engaging with these pathways WSTF contributes to the cell's ability to regulate the genome and respond to damage efficiently.
Associated diseases and disorders	WSTF is significantly connected to Williams-Beuren syndrome and certain cancers. Williams-Beuren syndrome a developmental disorder arises from the deletion of the region on chromosome 7 involving the WSTF gene affecting brain and heart function. In certain cancers aberrant expression or mutations within the WSTF gene are associated with uncontrolled chromatin remodeling contributing to tumorigenesis. Through these disorders WSTF shows its interaction with proteins like SMARCA1 in chromatin remodeling anomalies emphasizing its importance in disease progression and cellular dysfunction.

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

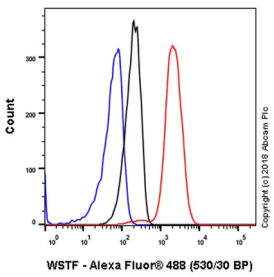
We do not recommend this combination. It is not covered by our product promise.

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.

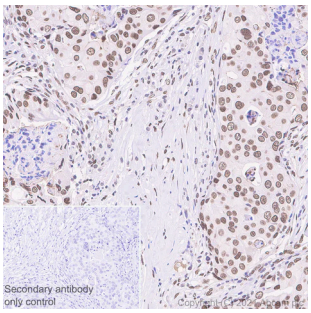
10 product images



Flow Cytometry (Intracellular) - Anti-WSTF antibody [EP1704Y] (ab51256)

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

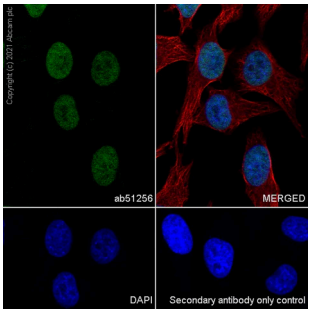
Flow Cytometry analysis of HeLa (Human cervix adenocarcinoma epithelial cell) cells labelling WSTF with Purified ab51256 at 1:20 dilution (10 µg/ml) (Red). Cells were fixed with 4% Paraformaldehyde and permeabilised with 90% Methanol. A Goat anti rabbit IgG (Alexa Fluor® 488, ab150077) secondary antibody was used at 1:2000. Isotype control - Rabbit monoclonal IgG (Black). Unlabelled control - Cell without incubation with primary antibody and secondary antibody (Blue).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-WSTF antibody [EP1704Y] (ab51256)

WSTF Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-WSTF antibody

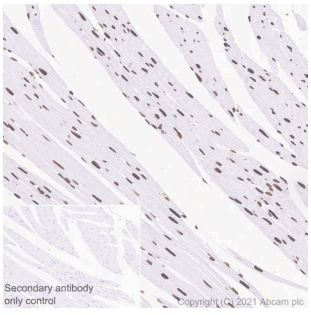
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human breast carcinoma tissue sections labeling WSTF with Purified ab51256 at 1:700 dilution (0.211 µg/ml). Heat mediated antigen retrieval was performed using Heat mediated antigen retrieval using ab93678 (citrate buffer, pH 6.0). Tissue was counterstained with Hematoxylin. ImmunoHistoProbe one step HRP Polymer (ready to use) secondary antibody was used. PBS instead of the primary antibody was used as the negative control.



Immunocytochemistry/ Immunofluorescence - Anti-WSTF antibody [EP1704Y] (ab51256)

WSTF Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-WSTF antibody

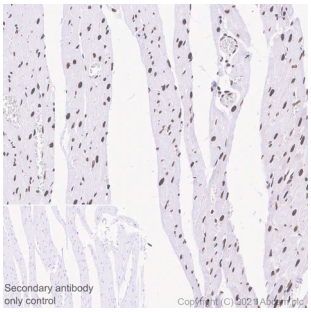
Immunocytochemistry analysis of HeLa (Human cervix adenocarcinoma epithelial cell) cells labeling WSTF with Purified ab51256 at 1:50 dilution (2.9 µg/ml). Cells were fixed in 4% Paraformaldehyde and permeabilized with 0.1% tritonX-100. Cells were counterstained with ab195889 Anti-alpha Tubulin antibody [DM1A] - Microtubule Marker (Alexa Fluor® 594) 1:200 (2.5 µg/ml). Goat anti rabbit IgG (Alexa Fluor® 488, ab150077) was used as the secondary antibody at 1:1000 (2 µg/ml) dilution. DAPI (blue) was used as nuclear counterstain. PBS instead of the primary antibody was used as the secondary antibody only control.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-WSTF antibody [EP1704Y] (ab51256)

WSTF Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-WSTF antibody

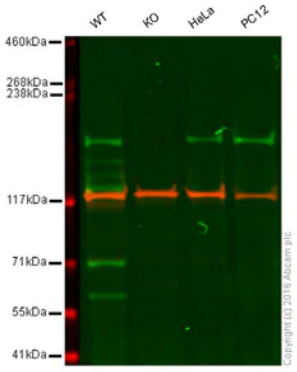
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of mouse cardiac muscle tissue sections labeling WSTF with Purified ab51256 at 1:700 dilution (0.211 µg/ml). Heat mediated antigen retrieval was performed using Heat mediated antigen retrieval using ab93678 (citrate buffer, pH 6.0). Tissue was counterstained with Hematoxylin. ImmunoHistoProbe one step HRP Polymer (ready to use) secondary antibody was used. PBS instead of the primary antibody was used as the negative control.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-WSTF antibody [EP1704Y] (ab51256)

WSTF Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-WSTF antibody

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of rat cardiac muscle tissue sections labeling WSTF with Purified ab51256 at 1:700 dilution (0.211 µg/ml). Heat mediated antigen retrieval was performed using Heat mediated antigen retrieval using ab93678 (citrate buffer, pH 6.0). Tissue was counterstained with Hematoxylin. ImmunoHistoProbe one step HRP Polymer (ready to use) secondary antibody was used. PBS instead of the primary antibody was used as the negative control.



Western blot - Anti-WSTF antibody [EP1704Y] (ab51256)

WSTF Western blot staining using rabbit Anti-WSTF antibody

Lanes 1 - 4: Merged signal (red and green). Green - ab51256 observed at 175 kDa. Red - loading control, ab18058, observed at 124 kDa.
ab51265 was shown to recognize WSTF in wilt-type cells along with additional cross-reactive bands as signal was lost in WSTF knockout samples. Wild-type and WSTF knockout samples were subjected to SDS-PAGE. ab51256 and ab18058 (loading control to vinculin) were diluted 1/15 000 and 1/10 000 respectively and incubated overnight at 4°C. 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 1/10000 dilution for 1 hour at room temperature before imaging.

All lanes:
Western blot - Anti-WSTF antibody [EP1704Y] (ab51256) at 1/15000 dilution

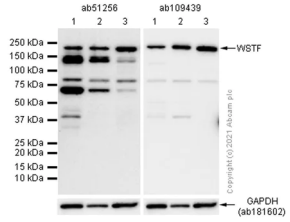
Lane 1:
Wild-type HAP1 cell lysate at 20 µg

Lane 2:
WSTF knockout HAP1 cell lysate at 20 µg

Lane 3:
HeLa cell lysate at 20 µg

Lane 4:
PC12 cell lysate at 20 µg

Predicted band size: 171 kDa



Western blot - Anti-WSTF antibody [EP1704Y] (ab51256)

WSTF Western blot staining using rabbit Anti-WSTF antibody

Exposure time:
Left image: 180 seconds

Right image: 40 seconds

We recommend to use ab109439 for WSTF Western Blot testing because ab51256 detects nonspecific bands.

All lanes:

Western blot - Anti-WSTF antibody [EP1704Y] (ab51256) at 1/20000 dilution

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

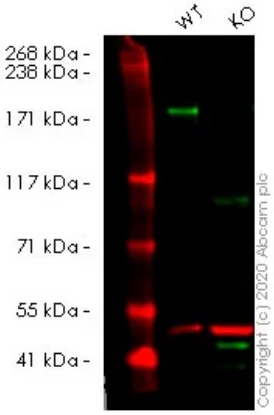
Lane 2:
T-47D (Human ductal breast epithelial tumor epithelial cell) whole cell lysate at 20 µg

Lane 3:
MCF7 (Human breast adenocarcinoma epithelial cell) whole cell lysate at 20 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/20000 dilution

Predicted band size: 171 kDa



Western blot - Anti-WSTF antibody [EP1704Y] (ab51256)

WSTF Western blot staining of Wild-type HeLa cell lysate using rabbit Anti-WSTF antibody

Lanes 1- 2: Merged signal (red and green). Green - ab51256 observed at 175 kDa. Red - Anti-alpha Tubulin antibody [DM1A] - Loading Control (ab7291) observed at 50 kDa.
ab51256 was shown to react with WSTF in wild-type HeLa cells in western blot. Loss of signal was observed when knockout cell line ab264907 (knockout cell lysate ab257370) was used. Wild-type HeLa and WSTF knockout HeLa cell lysates were subjected to SDS-PAGE. Membrane was blocked for 1 hour at room temperature in 0.1% TBST with 3% non-fat dried milk. ab51256 and Anti-alpha Tubulin antibody [DM1A] - Loading Control (ab7291) overnight at 4°C at a 1 in 15000 dilution and a 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.

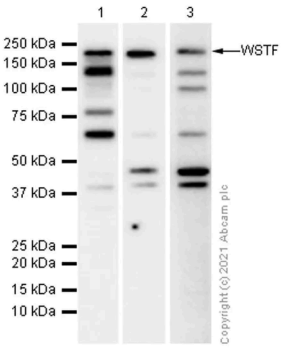
All lanes:
Western blot - Anti-WSTF antibody [EP1704Y] (ab51256) at 1/15000 dilution

All lanes:
Wild-type HeLa cell lysate at 20 µg

Performed under reducing conditions.

Predicted band size: 171 kDa

Observed band size: 175 kDa



Western blot - Anti-WSTF antibody [EP1704Y] (ab51256)

WSTF Western blot staining using rabbit Anti-WSTF antibody

Exposure time
Lane 1: 10 seconds

Lane 2: 40 seconds

Lane 3: 180 seconds

All lanes:

Western blot - Anti-WSTF antibody [EP1704Y] (ab51256) at 1/5000 dilution

Lane 1:
B16-F0 (Mouse melanoma epithelial cell-like) whole cell lysate at 15 µg

Lane 2:
Mouse testis lysate at 15 µg

Lane 3:
Rat testis lysate at 15 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/20000 dilution

Predicted band size: 171 kDa

Observed band size: 185 kDa

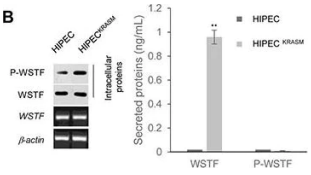


Image collected and cropped by CiteAb under a CC-BY license from the publication

Western blot - Anti-WSTF antibody [EP1704Y] (ab51256)

WSTF western blot using anti-WSTF antibody [EP1704Y] ab51256. Publication image and figure legend from Liu, Y., Wang, S. Q., et al., 2016, Oncotarget, PubMed 27449290.

ab51256 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 ab51256 please see the product overview.

Release of WSTF was induced by KRASG12V in colon cells(A) We constructed the H-RasG12V expression vectors to preferentially activate the Ras pathways. The levels of P-ERK1/2, P-AKT and RalA-GTP were detected with specific antibodies to examine the activities of corresponding pathways. (B) Media containing WSTF and P-WSTF was detected using ELISA. Levels of intracellular P-WSTF, total WSTF protein and mRNA were detected as controls. (C) Different small interfering RNAs were transfected into HIPECKRASM cells for 48 h. Two specific siRNAs for each gene were implicated in experiments. The secreted WSTF was detected by ELISA assay. (D) The media of HIPECKRASM cells, which was cultured with U0126 (10 µM) or Wortmannin (10 µM) for 20 h, were tested by ELISA. Non-treated HIPECKRASM cells were used as control.

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