abcam

ab275747

Anti-SUFU antibody [EPR23821-101] - BSA and Azide free

Recombinant | RabMAb | KO Validated

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Carrier free	Yes
Clone number	EPR23821-101
Purification technique	Affinity purification Protein A

Reactivity data

ICC/IF

Not recommended

Species	Human, Mouse, Rat
Dilution info	-
Notes	-

IP

Not recommended

Species	Human, Mouse, Rat
Dilution info	-
Notes	-

WB

Tested

Species	Human
Dilution info	-
Notes	We recommend using fresh lysate to improve band intensity. Protein should be transfered to membrane immediately to minimize protein degradation.

Species	Mouse
Dilution info	-
Notes	-

Species	Rat
Dilution info	-
Notes	-

IHC-P

Not recommended

Species	Mouse, Rat, Human
Dilution info	-
Notes	-

IHC-Fr

Not recommended

Species	Mouse, Rat, Human
Dilution info	-

Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	-
Notes	-

Expected

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

Target data

See full target information SUFU

Function

Negative regulator in the hedgehog/smoothened signaling pathway (PubMed:10559945, PubMed:10564661, PubMed:10806483, PubMed:12068298, PubMed:12975309, PubMed:15367681, PubMed:22365972, PubMed:24217340, PubMed:24311597, PubMed:27234298, PubMed:28965847). Down-regulates GLI1-mediated transactivation of target genes (PubMed:15367681, PubMed:24217340, PubMed:24311597). Down-regulates GLI2-mediated transactivation of target genes (PubMed:24217340, PubMed:24311597). Part of a corepressor complex that acts on DNA-bound GLI1. May also act by linking GLI1 to BTRC and thereby targeting GLI1 to degradation by the proteasome (PubMed:10559945, PubMed:10564661, PubMed:10806483, PubMed:24217340). Sequesters GLI1, GLI2 and GLI3 in the cytoplasm, this effect is overcome by binding of STK36 to both SUFU and a GLI protein (PubMed:10559945, PubMed:10564661, PubMed:10806483, PubMed:24217340). Negative regulator of beta-catenin signaling (By similarity). Regulates the formation of either the repressor form (GLI3R) or the activator form (GLI3A) of the full-length form of GLI3 (GLI3FL) (PubMed:24311597, PubMed:28965847). GLI3FL is complexed with SUFU in the cytoplasm and is maintained in a neutral state (PubMed:24311597, PubMed:28965847). Without the Hh signal, the SUFU-GLI3 complex is recruited to cilia, leading to the efficient processing of GLI3FL into GLI3R (PubMed:24311597, PubMed:28965847). When Hh signaling is initiated, SUFU dissociates from GLI3FL and the latter translocates to the nucleus, where it is phosphorylated, destabilized, and converted to a transcriptional activator (GLI3A) (PubMed:24311597, PubMed:28965847). Required for normal embryonic development (By similarity). Required for the proper formation of hair follicles and the control of epidermal differentiation (By similarity).

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C

Notes

ab275747 is the carrier-free version of ab259975.

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.

Conjugation ready
Our carrier-free antibodies are typically supplied in a PBS-only formulation, purified and free of BSA, sodium azide and glycerol. This conjugation-ready format is designed for use with fluorochromes, metal isotopes, oligonucleotides, and enzymes, which makes them ideal for antibody labelling, functional and cell-based assays, flow-based assays (e.g. mass cytometry) and Multiplex Imaging applications.

Use our conjugation kits for antibody conjugates that are ready-to-use in as little as 20 minutes with 1 minute hands-on-time and 100% antibody recovery: available for fluorescent dyes, HRP, biotin and gold.

Compatibility
This product is compatible with the Maxpar® Antibody Labeling Kit from Fluidigm, without the need for antibody preparation. Maxpar® is a trademark of Fluidigm Canada Inc.

Supplementary info

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

Activity summary	SUFU also known as Suppressor of Fused is a regulatory protein with a mass of approximately 54 kDa. This protein serves as a significant component within the Hedgehog signaling pathway. SUFU is widely expressed in various tissues including brain heart and skeletal muscle. It acts as a negative regulator binding to and inhibiting the activity of other key proteins in the signaling cascade.

Biological function summary	SUFU modulates the activity of the transcription factors Gli1 Gli2 and Gli3 keeping them in the cytoplasm in their inactive form. It can form part of large protein complexes playing an important role in ensuring that signal transduction is tightly regulated. SUFU's function helps control the expression of target genes that are important for development and cellular differentiation. This regulation is essential during embryonic development and tissue maintenance in adults.
Pathways	SUFU has an important role in the Hedgehog signaling pathway and interacts with components like Smoothened (SMO) and Patched (PTCH). This pathway controls processes like cell growth and differentiation. By regulating the activity of Gli proteins SUFU influences how signals are transmitted within the pathway. SUFU can also interact with other proteins such as KIF7 further defining its place within the pathway's network.
Associated diseases and disorders	SUFU can contribute to the development of basal cell carcinoma and medulloblastoma when its function is disrupted. In cases where mutations affect SUFU regulation the Hedgehog pathway becomes aberrantly activated. This can lead to uncontrolled cell proliferation. SUFU's relationship with Gli proteins is significant in these conditions because of its role in modulating their activity directly impacting the onset and progression of these cancers.

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

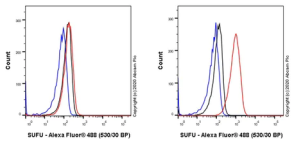
We do not recommend this combination. It is not covered by our product promise.

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

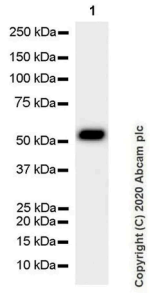


Flow Cytometry (Intracellular) - Anti-SUFU antibody [EPR23821-101] - BSA and Azide free (ab275747)

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

This data was developed using ab259975, the same antibody clone in a different buffer formulation.
Intracellular flow cytometric analysis of 4% paraformaldehyde-fixed, 90% methanol permeabilized parental HAP1 (Wildtype control Human chronic myelogenous leukemia near-haploid cell line, Right) / SUFU KO HAP1 (Left) cells labelling SUFU with ab259975 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.



Western blot - Anti-SUFU antibody [EPR23821-101] - BSA and Azide free (ab275747)

SUFU Western blot staining of LNCaP (human prostate carcinoma epithelial cell), whole cell lysate using rabbit Anti-SUFU antibody

This data was developed using ab259975, the same antibody clone in a different buffer formulation.
Blocking and diluting buffer and concentration: 5% NFDM/TBST.

Fresh lysates were used in this WB.

Exposure time: 37 seconds.

All lanes:
Western blot - Anti-SUFU antibody [EPR23821-101] (ab259975) at 1/1000 dilution

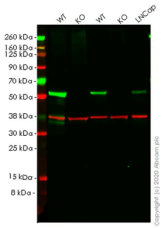
All lanes:
LNCaP (human prostate carcinoma epithelial cell), whole cell lysate at 20 µg

Secondary

All lanes:
Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated (ab97051) at 1/100000 dilution

Predicted band size: 53 kDa

Observed band size: 53 kDa



Western blot - Anti-SUFU antibody [EPR23821-101] - BSA and Azide free (ab275747)

SUFU Western blot staining using rabbit Anti-SUFU antibody

This data was developed using ab259975, the same antibody clone in a different buffer formulation.
Blocking and diluting buffer and concentration: Intercept® (TBS) Blocking Buffer diluted with an equal volume of 0.1% TBS.

Lanes 1-5: Merged signal (red and green). Green - ab259975 observed at 53 kDa. Red - loading control ab8245 (Mouse monoclonal [6C5] to GAPDH) observed at 36 kDa.

Lanes 1-2: ab253183 Anti-SUFU antibody [EPR23821-101] was shown to react with SUFU in HAP1 cells in Western blot. Loss of signal was observed when SUFU knockout sample was used. Wild-type and SUFU knockout samples were subjected to SDS-PAGE.

Lanes 3-4: ab253183 Anti-SUFU antibody [EPR23821-101] was shown to specifically react with SUFU in wild-type HEK293T cells. Loss of signal was observed when knockout cell line ab267282 (knockout cell lysate ab257718) was used. Wild-type and SUFU knockout samples were subjected to SDS-PAGE.

ab253183 and Anti-GAPDH antibody [6C5] - Loading Control (ab8245) were incubated at 4° overnight 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 10000 dilution for 1 hour at room temperature before imaging.

All lanes:
Western blot - Anti-SUFU antibody [EPR23821-101] - BSA and Azide free (ab275747) at 1/1000 dilution

Lane 1:
Wild-type HAP1 (human chronic myelogenous leukemia near-haploid cell), whole cell lysate

Lane 2:
SUFU knockout HAP1 (human chronic myelogenous leukemia near-haploid cell), whole cell lysate

Lane 3:
Wild-type HEK293T (human embryonic kidney epithelial cell), whole cell lysate

Lane 4:
SUFU knockout HEK293T (human embryonic kidney epithelial cell), whole cell lysate

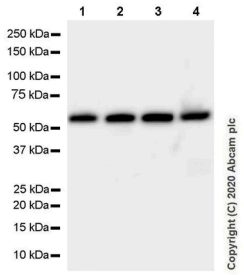
Lane 5:
LNCaP (human prostate carcinoma epithelial cell), whole cell lysate

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: 53 kDa

Observed band size: 53 kDa



Western blot - Anti-SUFU antibody [EPR23821-101] - BSA and Azide free (ab275747)

This data was developed using ab259975, the same antibody clone in a different buffer formulation.
Blocking and diluting buffer and concentration: 5% NFDM/TBST.

Fresh lysates were used in this WB.

Exposure time: 26 seconds.

All lanes:
Western blot - Anti-SUFU antibody [EPR23821-101] (ab259975) at 1/1000 dilution

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

Lane 2:
293T (human embryonic kidney epithelial cell), whole cell lysate at 20 µg

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

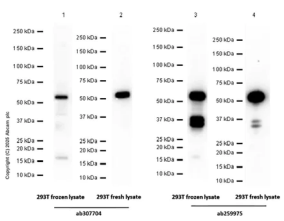
Lane 4:
PC-12 (rat adrenal gland pheochromocytoma), whole cell lysate at 20 µg

Secondary

All lanes:
Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated (ab97051) at 1/100000 dilution

Predicted band size: 53 kDa

Observed band size: 53 kDa



Western blot - Anti-SUFU antibody [EPR23821-101] - BSA and Azide free (ab275747)

SUFU Western blot staining using rabbit Anti-SUFU antibody

This data was developed using ab259975, the same antibody clone in a different buffer formulation.

Blocking and diluting buffer and concentration: 5% NFDM/TBST.

We recommend using fresh lysate to improve band intensity. Protein in lysate should be transferred to membrane immediately to minimize protein degradation.

Lanes 1 - 2:
Western blot - Anti-SUFU antibody [EPR26229-17] (ab307704) at 1/1000 dilution

Lanes 3 - 4:
Western blot - Anti-SUFU antibody [EPR23821-101] (ab259975) at 1/1000 dilution

Lanes 1 and 3:
Frozen 293T (human embryonic kidney epithelial cell) whole cell lysate at 20 µg

Lanes 2 and 4:
Fresh (human embryonic kidney 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

Observed band size: 54 kDa

Exposure time: 180s

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