

Product datasheet

Anti-SFPQ antibody ab38148

★★★★★ 2 Abreviews 19 References 5 Images

Overview

Product name	Anti-SFPQ antibody
Description	Rabbit polyclonal to SFPQ
Host species	Rabbit
Tested applications	Suitable for: WB, ICC/IF, IHC-P
Species reactivity	Reacts with: Mouse, Human Predicted to work with: Rat, Zebrafish
Immunogen	Synthetic peptide conjugated to KLH derived from within residues 650 to the C-terminus of Human SFPQ. Read Abcam's proprietary immunogen policy (Peptide available as ab39323 .)
Positive control	Ab38148 gave a positive result in the following Whole Cell Lysates: HeLa; HEK293; MCF-7; HepG2; NIH3T3. This antibody gave a positive result in IHC in the following FFPE tissue: Human colon cancer.

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C or -80°C. Avoid freeze / thaw cycle.
Storage buffer	Preservative: 0.02% Sodium Azide Constituents: 1% BSA, PBS, pH 7.4
Purity	Immunogen affinity purified
Clonality	Polyclonal
Isotype	IgG

Applications

Our [Abpromise guarantee](#) covers the use of **ab38148** in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
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Application	Abreviews	Notes
WB	★★★★★	Use a concentration of 1 µg/ml. Detects a band of approximately 95 kDa (predicted molecular weight: 76 kDa).
ICC/IF		Use a concentration of 1 µg/ml.
IHC-P		Use a concentration of 1 µg/ml.

Target

Function

DNA- and RNA binding protein, involved in several nuclear processes. Essential pre-mRNA splicing factor required early in spliceosome formation and for splicing catalytic step II, probably as an heteromer with NONO. Binds to pre-mRNA in spliceosome C complex, and specifically binds to intronic polypyrimidine tracts. Interacts with U5 snRNA, probably by binding to a purine-rich sequence located on the 3' side of U5 snRNA stem 1b. May be involved in a pre-mRNA coupled splicing and polyadenylation process as component of a snRNP-free complex with SNRPA/U1A. The SFPQ-NONO heteromer associated with MATR3 may play a role in nuclear retention of defective RNAs. SFPQ may be involved in homologous DNA pairing; in vitro, promotes the invasion of ssDNA between a duplex DNA and produces a D-loop formation. The SFPQ-NONO heteromer may be involved in DNA unwinding by modulating the function of topoisomerase I/TOP1; in vitro, stimulates dissociation of TOP1 from DNA after cleavage and enhances its jumping between separate DNA helices. The SFPQ-NONO heteromer may be involved in DNA nonhomologous end joining (NHEJ) required for double-strand break repair and V(D)J recombination and may stabilize paired DNA ends; in vitro, the complex strongly stimulates DNA end joining, binds directly to the DNA substrates and cooperates with the Ku70/G22P1-Ku80/XRCC5 (Ku) dimer to establish a functional preligation complex. SFPQ is involved in transcriptional regulation. Transcriptional repression is probably mediated by an interaction of SFPQ with SIN3A and subsequent recruitment of histone deacetylases (HDACs). The SFPQ-NONO/SF-1 complex binds to the CYP17 promoter and regulates basal and cAMP-dependent transcriptional activity. SFPQ isoform Long binds to the DNA binding domains (DBD) of nuclear hormone receptors, like RXRA and probably THRA, and acts as transcriptional corepressor in absence of hormone ligands. Binds the DNA sequence 5'-CTGAGTC-3' in the insulin-like growth factor response element (IGFRE) and inhibits IGF-I-stimulated transcriptional activity.

Involvement in disease

Note=A chromosomal aberration involving SFPQ may be a cause of papillary renal cell carcinoma (PRCC). Translocation t(X;1)(p11.2;p34) with TFE3.

Sequence similarities

Contains 2 RRM (RNA recognition motif) domains.

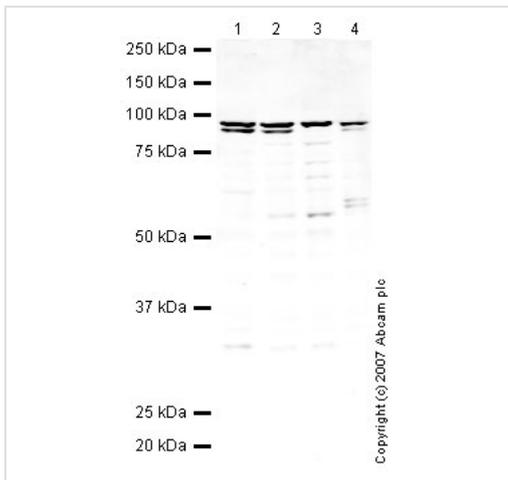
Post-translational modifications

The N-terminus is blocked.
 Phosphorylated on multiple serine and threonine residues during apoptosis. In vitro phosphorylated by PKC. Phosphorylation stimulates binding to DNA and D-loop formation, but inhibits binding to RNA.
 Arg-7, Arg-9, Arg-19 and Arg-25 are dimethylated, probably to asymmetric dimethylarginine.

Cellular localization

Nucleus matrix. Predominantly in nuclear matrix.

Images



Western blot - Anti-SFPQ antibody (ab38148)

All lanes : Anti-SFPQ antibody (ab38148) at 1 µg/ml

Lane 1 : HeLa (Human epithelial carcinoma cell line) Whole Cell Lysate

Lane 2 : HEK293 (Human embryonic kidney cell line) Whole Cell Lysate

Lane 3 : MCF7 (Human breast adenocarcinoma cell line) Whole Cell Lysate

Lane 4 : HepG2 (Human hepatocellular liver carcinoma cell line) Whole Cell Lysate

Lysates/proteins at 10 µg per lane.

Secondary

All lanes : IRDye 680 Conjugated Goat Anti-Rabbit IgG (H+L) at 1/10000 dilution

Performed under reducing conditions.

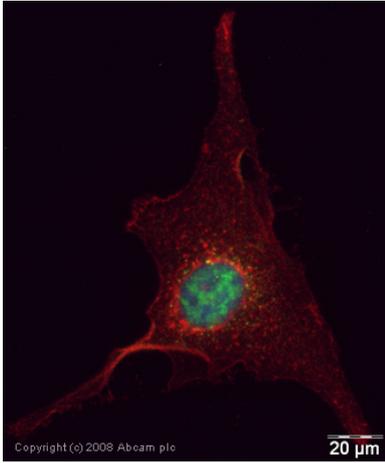
Predicted band size: 76 kDa

Observed band size: 95 kDa

[why is the actual band size different from the predicted?](#)

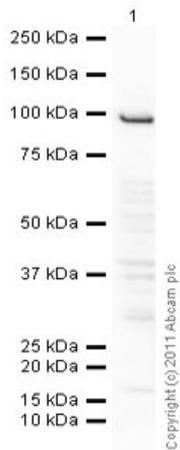
Additional bands at: 90 kDa. We are unsure as to the identity of these extra bands.

We are unsure as to the identity of the 90kDa band as no isoforms at this molecular weight are known. Abcam welcomes customer feedback and would appreciate any comments regarding this product and the data presented above.



Immunocytochemistry/ Immunofluorescence - Anti-SFPQ antibody (ab38148)

ICC/IF image of ab38148 stained human HeLa cells. The cells were methanol fixed (5 min), permeabilised in TBS-T (20 min) and incubated with the antibody (ab38148, 1μg/ml) for 1h at room temperature. 1%BSA / 10% normal goat serum / 0.3M glycine was used to quench autofluorescence and block non-specific protein-protein interactions. The secondary antibody (green) was Alexa Fluor® 488 goat anti-rabbit IgG (H+L) used at a 1/1000 dilution for 1h. Alexa Fluor® 594 WGA was used to label plasma membranes (red). DAPI was used to stain the cell nuclei (blue).



Western blot - Anti-SFPQ antibody (ab38148)

Anti-SFPQ antibody (ab38148) at 1 μg/ml + NIH 3T3 (Mouse embryonic fibroblast cell line) Whole Cell Lysate at 10 μg

Secondary

Goat Anti-Rabbit IgG H&L (HRP) preadsorbed (ab97080) at 1/5000 dilution

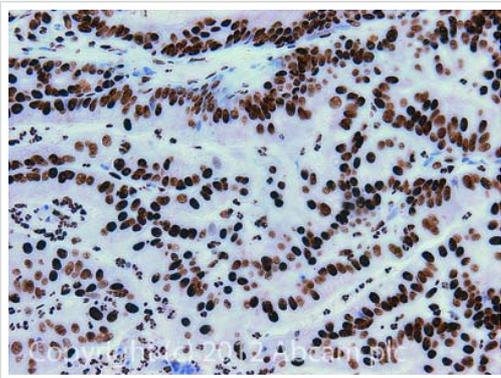
Developed using the ECL technique.

Performed under reducing conditions.

Predicted band size: 76 kDa

Observed band size: 100 kDa [why is the actual band size different from the predicted?](#)

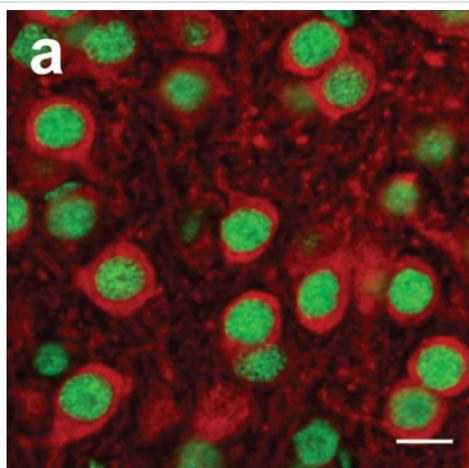
Exposure time: 1 minute



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-SFPQ antibody (ab38148)

IHC image of SFPQ staining in Human colon cancer formalin fixed paraffin embedded tissue section, performed on a Leica Bond™ system using the standard protocol F. The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH6, epitope retrieval solution 1) for 20 mins. The section was then incubated with ab38148, 1 µg/ml, for 15 mins at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chromogen. The section was then counterstained with haematoxylin and mounted with DPX.

For other IHC staining systems (automated and non-automated) customers should optimize variable parameters such as antigen retrieval conditions, primary antibody concentration and antibody incubation times.



Immunocytochemistry/ Immunofluorescence - Anti-SFPQ antibody (ab38148)

Image from Ke Y et al., PLoS One. 2012;7(4):e35678. Epub 2012 Apr 25. Fig 2.; doi:10.1371/journal.pone.0035678; April 25, 2012, PLoS ONE 7(4): e35678.

Immunofluorescence analysis of mouse amygdala tissue, staining SFPQ (green) with ab38148 at 1/200 dilution. An AlexaFluor®488-conjugated anti-rabbit IgG was used as the secondary antibody.

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