abcam

Product datasheet

Anti-SF2 antibody ab38017

6 Abreviews 28 References 4 Images

Overview

Product name	Anti-SF2 antibody
Description	Rabbit polyclonal to SF2
Host species	Rabbit
Specificity	From Jan 2024, QC testing of replenishment batches of this polyclonal changed. All tested and expected application and reactive species combinations are still covered by our Abcam product promise. However, we no longer test all applications. For more information on a specific batch, please contact our Scientific Support who will be happy to help. You may also be interested in our alternative recombinant antibody, **ab129108**.
Tested applications	**Suitable for:** IP, ICC/IF, WB, IHC-P
Species reactivity	**Reacts with:** Human **Predicted to work with:** Mouse, Chicken, Pig, Zebrafish
Immunogen	Synthetic peptide conjugated to KLH derived from within residues 100 - 200 of Human SF2.Read Abcam's proprietary immunogen policy(Peptide available as **ab38811**.)
Positive control	This antibody gave a positive result in the following whole cell lysates: HeLa (Human epithelial carcinoma cell line) Jurkat (Human T cell lymphoblast-like cell line) A431 (Human epithelial carcinoma cell line) HEK 293 (Human embryonic kidney cell line) HepG2 (Human hepatocellular liver carcinoma cell line) MCF-7 (Human breast adenocarcinoma cell line) SHSY-5Y (Human neuroblastoma cell line) This antibody gave a positive result in IHC in the following FFPE tissue: Human normal spleen.
General notes	The Life Science industry has been in the grips of a reproducibility crisis for a number of years. Abcam is leading the way in addressing this with our range of recombinant monoclonal antibodies and knockout edited cell lines for gold-standard validation. Please check that this product meets your needs before purchasing. If you have any questions, special requirements or concerns, please send us an inquiry and/or contact our Support team ahead of purchase. Recommended alternatives for this product can be found below, along with publications, customer reviews and Q&As

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	pH: 7.40 Preservative: 0.02% Sodium azide Constituent: PBS Batches of this product that have a concentration < 1mg/ml may have BSA added as a stabilising agent. If you would like information about the formulation of a specific lot, please contact our scientific support team who will be happy to help.
Purity	Immunogen affinity purified
Clonality	Polyclonal
Isotype	IgG

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab38017 in the following tested applications.

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

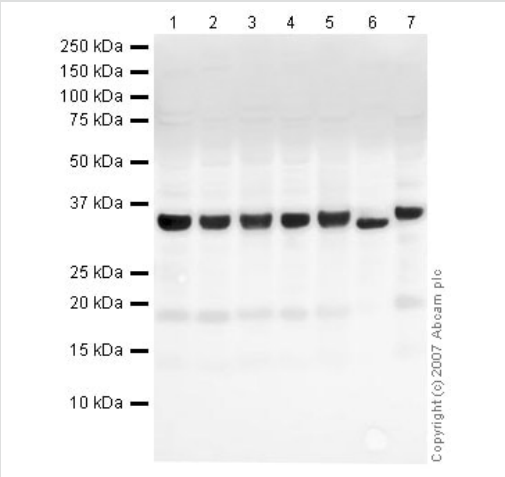
Application	Abreviews	Notes
IP	★★★★☆ (2)	Use at an assay dependent concentration.
ICC/IF	★★★★★ (2)	Use a concentration of 5 µg/ml.
WB	★★★★★ (2)	Use a concentration of 1 µg/ml. Detects a band of approximately 34 kDa (predicted molecular weight: 27 kDa).
IHC-P		Use a concentration of 5 µg/ml.

Target

Function	Plays a role in preventing exon skipping, ensuring the accuracy of splicing and regulating alternative splicing. Interacts with other spliceosomal components, via the RS domains, to form a bridge between the 5'- and 3'-splice site binding components, U1 snRNP and U2AF. Can stimulate binding of U1 snRNP to a 5'-splice site-containing pre-mRNA. Binds to purine-rich RNA sequences, either the octamer, 5'-RGAAGAAC-3' (r=A or G) or the decamers, AGGACAGAGC/AGGACGAAGC. Binds preferentially to the 5'-CGAGGCG-3' motif in vitro. Three copies of the octamer constitute a powerful splicing enhancer in vitro, the ASF/SF2 splicing enhancer (ASE) which can specifically activate ASE-dependent splicing. Isoform ASF-2 and isoform ASF-3 act as splicing repressors.
Sequence similarities	Belongs to the splicing factor SR family. Contains 2 RRM (RNA recognition motif) domains.
Domain	The RRM 2 domain plays an important role in governing both the binding mode and the phosphorylation mechanism of the RS domain by SRPK1. RS domain and RRM 2 are uniquely positioned to initiate a highly directional (C-terminus to N-terminus) phosphorylation reaction in which the RS domain slides through an extended electronegative channel separating the docking groove of SRPK1 and the active site. RRM 2 binds toward the periphery of the active site and guides the directional phosphorylation mechanism. Both the RS domain and an RRM domain are required for nucleocytoplasmic shuttling.

Post-translational modifications	Phosphorylated by CLK1, CLK2, CLK3 and CLK4. Phosphorylated by SRPK1 at multiple serines in its RS domain via a directional (C-terminal to N-terminal) and a dual-track mechanism incorporating both processive phosphorylation (in which the kinase stays attached to the substrate after each round of phosphorylation) and distributive phosphorylation steps (in which the kinase and substrate dissociate after each phosphorylation event). The RS domain of SRSF1 binds to a docking groove in the large lobe of the kinase domain of SRPK1 and this induces certain structural changes in SRPK1 and/or RRM 2 domain of SRSF1, allowing RRM 2 to bind the kinase and initiate phosphorylation. The cycles continue for several phosphorylation steps in a processive manner (steps 1-8) until the last few phosphorylation steps (approximately steps 9-12). During that time, a mechanical stress induces the unfolding of the beta-4 motif in RRM 2, which then docks at the docking groove of SRPK1. This also signals RRM 2 to begin to dissociate, which facilitates SRSF1 dissociation after phosphorylation is completed. Arg-97 is dimethylated, probably to asymmetric dimethylarginine.
Cellular localization	Cytoplasm. Nucleus speckle. In nuclear speckles. Shuttles between the nucleus and the cytoplasm.

Images



Western blot - Anti-SF2 antibody (ab38017)

All lanes : Anti-SF2 antibody (ab38017) at 1 µg/ml

Lane 1 : HeLa (Human epithelial carcinoma cell line) Whole Cell Lysate
Lane 2 : Jurkat whole cell lysate (**ab7899**)
Lane 3 : A-431 whole cell lysate (**ab7909**)
Lane 4 : HEK-293 whole cell lysate (**ab7902**)
Lane 5 : Hep G2 whole cell lysate (**ab7900**)
Lane 6 : MCF-7 (Human breast adenocarcinoma cell line) Whole Cell Lysate
Lane 7 : SHSY-5Y (Human neuroblastoma 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

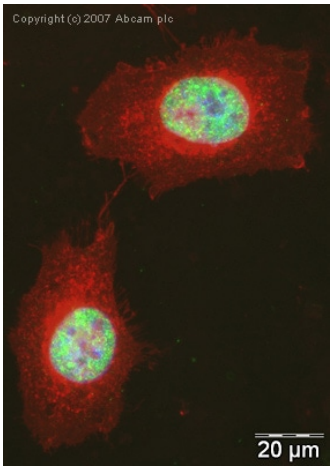
Performed under reducing conditions.

Predicted band size: 27 kDa
Observed band size: 34 kDa

SF2 is extensively phosphorylated on serine residues in the RS

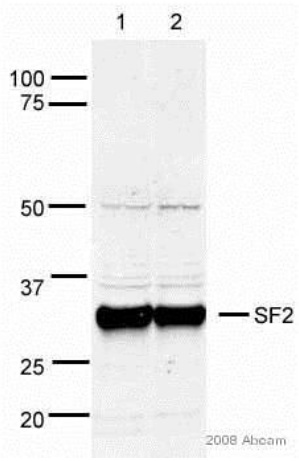
domain (SwissProt).

ab38017 is targeted against all isoforms of the SF2 protein.



Immunocytochemistry/ Immunofluorescence - Anti-SF2 antibody (ab38017)

ICC/IF image of ab38017 stained human HeLa cells. The cells were PFA fixed (10 min), permabilised in TBS-T (20 min) and incubated with the antibody (ab38017, 5µg/ml) for 1h at room temperature. 1%BSA / 10% normal 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-SF2 antibody (ab38017)

This image is courtesy of an anonymous Abreview

All lanes : Anti-SF2 antibody (ab38017) at 1 µg/ml

Lane 1 : HeLa whole cell lysate
Lane 2 : 293T whole cell lysate

Lysates/proteins at 20 µg per lane.

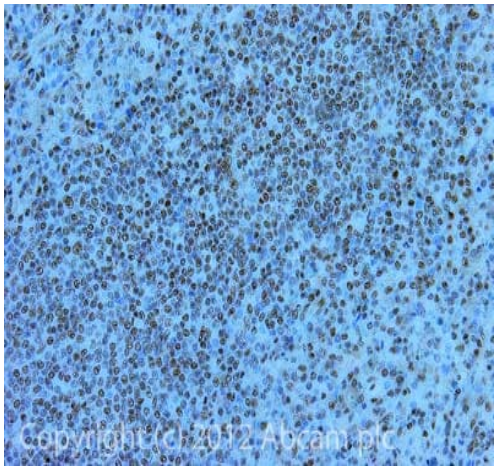
Secondary
All lanes : Alexa Fluor® conjugated goat anti-rabbit antibody at 1/10000 dilution

Developed using the ECL technique.

Performed under reducing conditions.

Predicted band size: 27 kDa
Observed band size: 34 kDa
Additional bands at: 50 kDa. We are unsure as to the identity of these extra bands.

Exposure time: 10 seconds



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-SF2 antibody (ab38017)

IHC image of SF2 staining in Human normal spleen formalin fixed paraffin embedded tissue section, performed on a Leica BondTM 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 ab38017, 5µg/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.

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