

Product datasheet

Anti-SF2 antibody ab238523

5 Images

Overview

Product name	Anti-SF2 antibody
Description	Rabbit polyclonal to SF2
Host species	Rabbit
Tested applications	Suitable for: WB, IHC-P, ICC/IF
Species reactivity	Reacts with: Mouse, Rat, Human Predicted to work with: Cow, Pig 
Immunogen	Fusion protein corresponding to Human SF2 aa 1-248. NP_008855.1 Sequence: MSGGGVIRGPAGNDCRIYVGNLPPDIRTKDIEDVFYKY GAIRDIDLKNR RGGPPFAFVEFEDPRDAEDAVYGRDGYDYDGYRLRV EFPRSGRGTGRGGG GGGGGAPRGRYGPSSRRSENRVVVSGLPPSGSWQ DLKDHMREAGDVCYA DVYRDGTGVVEFVRKEDMTYAVRKLDNTKFRSHEGET AYIRVKVDGPRSP SYGRSRSRSRSRSRSRSNSRSRSRSPRRSRGSPR YSPRHSRSRSRT Database link: Q07955  Run BLAST with  Run BLAST with
Positive control	WB: HeLa, MCF7 and DU 145 cell extracts. Mouse spleen and thymus extracts. IHC-P: Rat lung tissue. Mouse esophagus tissue. Human lung cancer tissue. ICC/IF: U-2 OS cells.

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 long term. Avoid freeze / thaw cycle.
Storage buffer	pH: 7.30 Preservative: 0.02% Sodium azide Constituents: PBS, 50% Glycerol

Purity	Affinity purified
Clonality	Polyclonal
Isotype	IgG

Applications

Our [Abpromise guarantee](#) covers the use of **ab238523** 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
WB		1/500 - 1/2000. Predicted molecular weight: 28 kDa.
IHC-P		1/50 - 1/200.
ICC/IF		1/50 - 1/200.

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

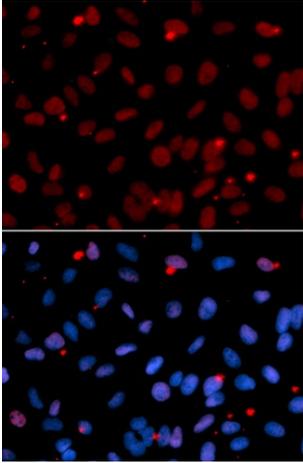
Phosphorylated by CLK1, CLK2, CLK3 and CLK4. Phosphorylated by SRPK1 at multiple serines in its RS domain via a directional (C-terminal to N-terminal) and a dual-track mechanism incorporating both processive phosphorylation (in which the kinase stays attached to the substrate after each round of phosphorylation) 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

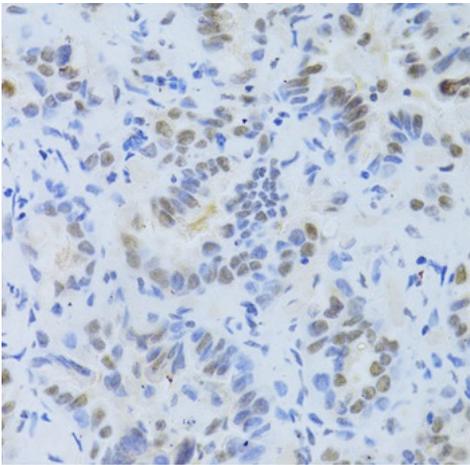
Cytoplasm. Nucleus speckle. In nuclear speckles. Shuttles between the nucleus and the cytoplasm.

Images



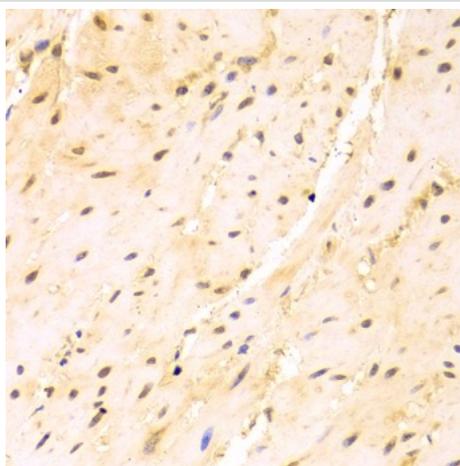
U-2 OS (Human bone osteosarcoma epithelial cell line) cells stained for SF2 using ab238523 (Top panel, red) at a 1/50 dilution in ICC/IF. Counterstained with DAPI (Bottom panel, merge).

Immunocytochemistry/ Immunofluorescence - Anti-SF2 antibody (ab238523)



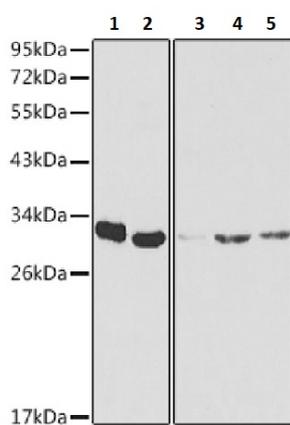
Paraffin-embedded human lung cancer tissue stained for SF2 with ab238523 at a 1/200 dilution in immunohistochemical analysis.

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-SF2 antibody (ab238523)



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-SF2 antibody (ab238523)

Paraffin-embedded mouse esophagus tissue stained for SF2 with ab238523 at a 1/100 dilution in immunohistochemical analysis.



Western blot - Anti-SF2 antibody (ab238523)

All lanes : Anti-SF2 antibody (ab238523) at 1/1000 dilution

Lane 1 : HeLa (Human epithelial cell line from cervix adenocarcinoma) cell extract

Lane 2 : MCF7 (Human breast adenocarcinoma cell line) cell extract

Lane 3 : DU 145 (Human prostate carcinoma cell line) cell extract

Lane 4 : Mouse thymus extract

Lane 5 : Mouse spleen extract

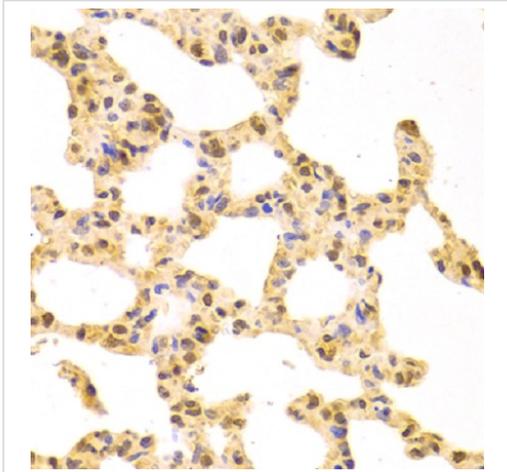
Lysates/proteins at 25 µg per lane.

Secondary

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

Predicted band size: 28 kDa

Blocking buffer: 3% non-fat dry milk in TBST.



Paraffin-embedded rat lung tissue stained for SF2 with ab238523 at a 1/100 dilution in immunohistochemical analysis.

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-SF2 antibody (ab238523)

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