

Product datasheet

Anti-SF2 antibody ab50565

1 Image

Overview

Product name	Anti-SF2 antibody
Description	Rabbit polyclonal to SF2
Host species	Rabbit
Specificity	This antibody reacts with SF2
Tested applications	Suitable for: WB, ELISA
Species reactivity	Reacts with: Human Predicted to work with: Mouse, Rat, Cow, Dog, Pig, Zebrafish
Immunogen	A region within synthetic peptide: EFVRKEDMTY AVRKLDNTKF RSHEGETAYI RVKVDGPRSP SYGRSRSRSR, corresponding to amino acids 161-210 of Human SF2 Run BLAST with ExPASy Run BLAST with NCBI
Positive control	HepG2 cell lysate

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Upon delivery aliquot and store at -20°C. Avoid freeze / thaw cycles.
Storage buffer	Preservative: None Constituents: 2% Sucrose, PBS
Purity	Immunogen affinity purified
Clonality	Polyclonal
Isotype	IgG

Applications

Our [Abpromise guarantee](#) covers the use of **ab50565** 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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WB		Use a concentration of 0.25 µg/ml. Detects a band of approximately 32 kDa (predicted molecular weight: 27 kDa). Good results were obtained when blocked with 5% non-fat dry milk in 0.05% PBS-T.
ELISA		1/62500. Titre using peptide based assay: 1/62500.

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.

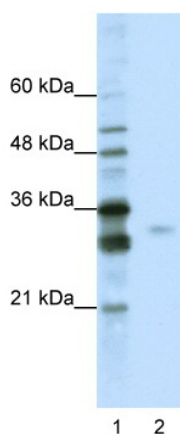
Post-translational modifications

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 - SF2 antibody (ab50565)

Lane 2 : Anti-SF2 antibody (ab50565) at 0.25 $\mu\text{g/ml}$

Lane 1 : MARKER

Lane 2 : HepG2 cell lysate at 10 μg

Secondary

Lane 2 : HRP conjugated anti-Rabbit IgG at 1/50000 dilution

Predicted band size: 27 kDa

Observed band size: 32 kDa

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