

Recombinant Human SF2 protein ab82026

描述

产品名称	重组人SF2蛋白
生物活性	1 unit equals 1 nanogram of purified protein.
纯度	> 95 % SDS-PAGE. purified by affinity column
表达系统	Escherichia coli
蛋白长度	Full length protein
无动物成分	No
性质	Recombinant
种属	Human

技术指标

Our **Abpromise guarantee** covers the use of **ab82026** in the following tested applications.

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

应用	Gel Supershift Assays SDS-PAGE EMSA
形式	Liquid
补充说明	1 unit equals 1 nanogram of purified protein.

制备和贮存

稳定性和存储	Shipped on dry ice. Upon delivery aliquot and store at -80°C. Avoid freeze / thaw cycles. pH: 7.90 Constituents: 0.55% Ammonium sulphate, 0.0077% DTT, 0.476% HEPES, 0.00584% EDTA, 20% Glycerol (glycerin, glycerine)
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常规信息

功能	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
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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.

序列相似性

Belongs to the splicing factor SR family.
Contains 2 RRM (RNA recognition motif) domains.

结构域

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.

翻译后修饰

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.

细胞定位

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

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