

SRPK2 Rabbit pAb

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Product Information

Application IHC-P, IHC-F, IF

Primary Accession P78362

Reactivity Pig, Human, Rabbit, Chicken, Dog, Horse

Rabbit Host **Polyclonal** Clonality 77527 Calculated MW **Physical State** Liquid

KLH conjugated synthetic peptide derived from human SRPK2 **Immunogen**

Epitope Specificity 266-350/688

Isotype IgG

Purity affinity purified by Protein A

Buffer 0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.

SUBCELLULAR LOCATION Cytoplasm. Nucleus. Note=Shuttles between the nucleus and the cytoplasm.

KAT5/TIP60 inhibits its nuclear translocation. Phosphorylation at Thr-492 by

PKB/AKT1 promotes nuclear translocation.

Phosphorylation at Thr-492 by PKB/AKT1 enhances its stimulatory activity in **SIMILARITY**

> triggering cyclin-D1 (CCND1) expression and promoting apoptosis in neurons, which can be blocked by YWHAB. It also enhances its protein kinase activity toward ACIN1 and SRSF2, promotes its nuclear translocation and prevents its proteolytic cleavage. Belongs to the protein kinase superfamily. CMGC Ser/Thr

protein kinase family. Contains 1 protein kinase domain.

Interacts with PKB/AKT1 in a phosphorylation-dependent manner. The **SUBUNIT**

> phosphorylated form (by PKB/AKT1) interacts with YWHAB and YWHAE. Interaction with YWHAB suppresses its cleavage by caspases and inhibits the release of its N-terminal pro-apoptotic fragment. Interacts with SFN.

Associates with U4/U6-U5 tri-small nuclear ribonucleoproteins (U4/U6-U5

tri-snRNPs).

Post-translational Proteolytically cleaved at Asp-139 and Asp-403 by caspase-3 during apoptotic cell death. Cleavage at Asp-139 which is the major site of cleavage, produces a modifications

small N-terminal fragment that translocates into nucleus and promotes

VP16-induced apoptosis.

This product as supplied is intended for research use only, not for use in **Important Note**

and at low levels in lung, liver, and kidney.

human, therapeutic or diagnostic applications.

SRPK2 belongs to the protein kinase superfamily. It phosphorylates RS **Background Descriptions**

> domain-containing proteins, such as SFRS1 and SFRS2 on serine residues. It has a role in spliceosome assembly and in mediating the trafficking of splicing factors and appears to mediate HBV core protein phosphorylation which is a prerequisite for pregenomic RNA encapsidation into viral capsids. SRPK2 highly expressed in brain, moderately expressed in heart and skeletal muscle

Additional Information

Gene ID 6733

Other Names SRSF protein kinase 2, 2.7.11.1, SFRS protein kinase 2, Serine/arginine-rich

protein-specific kinase 2, SR-protein-specific kinase 2, SRSF protein kinase 2

N-terminal, SRSF protein kinase 2 C-terminal, SRPK2

{ECO:0000312 | EMBL:AAH68547.1}

Target/Specificity Highly expressed in brain, moderately expressed in heart and skeletal muscle

and at low levels in lung, liver, and kidney.

Dilution IHC-P=1:100-500,IHC-F=1:100-500,IF=1:100-500

Storage Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When

reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody

is stable for at least two weeks at 2-4 °C.

Protein Information

Name SRPK2 {ECO:0000312 | EMBL:AAH68547.1}

Function Serine/arginine-rich protein-specific kinase which specifically phosphorylates

its substrates at serine residues located in regions rich in arginine/serine dipeptides, known as RS domains and is involved in the phosphorylation of SR

splicing factors and the regulation of splicing (PubMed: 18559500,

PubMed:<u>21056976</u>, PubMed:<u>9472028</u>). Promotes neuronal apoptosis by up-regulating cyclin-D1 (CCND1) expression (PubMed:<u>19592491</u>). This is done by the phosphorylation of SRSF2, leading to the suppression of p53/TP53

phosphorylation thereby relieving the repressive effect of p53/TP53 on cyclin-D1 (CCND1) expression (PubMed: 21205200). Phosphorylates ACIN1, and redistributes it from the nuclear speckles to the nucleoplasm, resulting in

cyclin A1 but not cyclin A2 up-regulation (PubMed: 18559500). Plays an essential role in spliceosomal B complex formation via the phosphorylation of

DDX23/PRP28 (PubMed:<u>18425142</u>). Probably by phosphorylating DDX23, leads to the suppression of incorrect R-loops formed during transcription; R-loops are composed of a DNA:RNA hybrid and the associated non-template single-stranded DNA (PubMed:<u>28076779</u>). Can mediate hepatitis B virus (HBV)

core protein phosphorylation (PubMed: 12134018). Plays a negative role in the regulation of HBV replication through a mechanism not involving the phosphorylation of the core protein but by reducing the packaging efficiency

phosphorylation of the core protein but by reducing the packaging efficiency of the pregenomic RNA (pgRNA) without affecting the formation of the viral

core particles (PubMed: 16122776).

Cellular Location Cytoplasm. Nucleus, nucleoplasm. Nucleus speckle. Chromosome.

Note=Shuttles between the nucleus and the cytoplasm (PubMed:19592491, PubMed:21056976, PubMed:21157427) KAT5/TIP60 inhibits its nuclear translocation (PubMed:21157427) Phosphorylation at Thr-492 by PKB/AKT1 promotes nuclear translocation (PubMed:19592491). Preferentially localizes

across the entire gene coding region (PubMed:28076779). During

transcription, accumulates at chromatin loci where unscheduled R-loops form and colocalizes with paused 'Ser-5'-phosphorylated POLR2A/RNA polymerase

II and helicase DDX23 (PubMed:28076779).

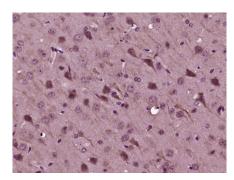
Tissue Location Highly expressed in brain, moderately expressed in heart and skeletal muscle

and at low levels in lung, liver, and kidney

Background

SRPK2 belongs to the protein kinase superfamily. It phosphorylates RS domain-containing proteins, such as SFRS1 and SFRS2 on serine residues. It has a role in spliceosome assembly and in mediating the trafficking of splicing factors and appears to mediate HBV core protein phosphorylation which is a prerequisite for pregenomic RNA encapsidation into viral capsids. SRPK2 highly expressed in brain, moderately expressed in heart and skeletal muscle and at low levels in lung, liver, and kidney.

Images



Paraformaldehyde-fixed, paraffin embedded (mouse brain tissue); Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15min; Block endogenous peroxidase by 3% hydrogen peroxide for 20 minutes; Blocking buffer (normal goat serum) at 37°C for 30min; Antibody incubation with (SRPK2) Polyclonal Antibody, Unconjugated (AP58797) at 1:400 overnight at 4°C, followed by operating according to SP Kit(Rabbit) (sp-0023) instructions and DAB staining.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.