**Background**

Pre-mRNA splicing is a critical step in the post-translational regulation of gene expression. The process of removing intron sequences from mRNA is a two-step enzymatic reaction that requires the action of the spliceosome, a large multicomponent ribonucleoprotein complex. The polypyrimidine tract-binding protein (PTB)-associated splicing factor (PSF) is a ubiquitously expressed protein that forms a complex with PTB, also designated hnrnp I, which is required for early spliceosome formation and is essential for catalytic step II. The PSF protein contains two RNA recognition motifs (RRMs), a proline- and glutamine-rich amino terminal domain, and two carboxy-terminal nuclear localization signals. PSF is localized to the nucleus in punctate structures called speckles, which are absent from nucleoli. The localization of PSF to speckles is dependent upon the presence of the second RRM motif. PSF also can associate with the DNA binding domains (DBDs) of thyroid hormone receptors and retinoic acid receptors, where it acts as a repressor by recruiting HDACs to the DBDs. PSF is expressed in neurons during development and may be involved in neuronal differentiation and maturation. PSF is proteolytically cleaved to produce a shorter fragment in myeloid cells.

**References**


**Chromosomal Location**

Genetic locus: SFPQ (human) mapping to 1p34.3; Sfpq (mouse) mapping to 1p34.3; Chromosomal location: 1.

**Product**

Each vial contains 200 µg IgG κ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

PSF (G-7) is available conjugated to agarose (sc-374502 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-374502 HP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-374502 PE), fluorescein (sc-374502 FITC), Alexa Fluor® 488 (sc-374502 AF488), Alexa Fluor® 546 (sc-374502 AF546), Alexa Fluor® 594 (sc-374502 AF594) or Alexa Fluor® 647 (sc-374502 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-374502 AF680) or Alexa Fluor® 790 (sc-374502 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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**Storage**

Store at 4°C, **“DO NOT FREEZE”**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

**Applications**

PSF (G-7) is recommended for detection of PSF of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for PSF siRNA (h): sc-38304, PSF shRNA (m): sc-38305, PSF shRNA Plasmid (h): sc-38304-SH, PSF shRNA Plasmid (m): sc-38305-SH, PSF shRNA (h) Lentiviral Particles: sc-38304-V and PSF shRNA (m) Lentiviral Particles: sc-38305-V.

Molecular Weight of PSF: 100 kDa.

Positive Controls: HeLa nuclear extract: sc-2120, Hep G2 nuclear extract: sc-364819 or NIH/3T3 nuclear extract: sc-2138.

**Data**

PSF (G-7): sc-374502. Western blot analysis of PSF expression in MDA-MB-231 (A) and NIH/3T3 (B) whole cell lysates and Jurkat (C), Hep G2 (D), HeLa (E) and NIH/3T3 (F) nuclear extracts.

PSF (G-7): sc-374502. Immunofluorescence staining of formalin-fixed Hep G2 cells showing nuclear localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human fallopian tube tissue showing nuclear staining of glandular cells (B).

**Select Product Citations**

1. Shen, W., et al. 2015. 2’-Fluoro-modified phosphorothioate oligonucleotide can cause rapid degradation of p54nr and PSF. Nucleic Acids Res. 43: 4569-4578.

**Research Use**

For research use only, not for use in diagnostic procedures.