PSIP1 (PC4 and SFRS1 interacting protein 1)

Cristina Morerio, Claudio Panarello

Dipartimento di Ematologia ed Oncologia Pediatrica, IRCCS Istituto Giannina Gaslini, Largo G. Gaslini 5, 16147 Genova, Italy

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Identity

Hugo: PSIP1
Other names: LEDGF (lens epithelium-derived growth factor); p75; p52
Location: 9p22.3

DNA/RNA

Description
The gene contains at least 15 exons and 14 introns.

Transcription
Two alternative splice variants: p75 and p52.

Protein

Description
530 amino acids (p75), 333 amino acids (p52);
N-term - PWWP (proline - tryptophan - tryptophan - proline) domain - NLS (nuclear localization signal) - AT-hook-like - Coiled coil - IBD (integrase binding domain) - HTH1 (helix-turn-helix DNA binding motif) - HTH2 - C-term.

Expression
Expression of PSIP1 has been reported to be increased in human breast and bladder cancer, prostate tumors and benign prostate hyperplasia.

Localisation
Nuclear.

Function
Transcriptional regulation of stress-associated genes, mRNA splicing and cell survival. The involvement of PSIP1 (LEDGF) has been reported in human immunodeficiency virus type-1 (HIV-1) integration, autoimmune disorders, and neurogenesis. Recent data reveal LEDGF as an oncogenic protein that controls a caspase-independent lysosomal cell death pathway.

Homology
PSIP1 belongs to the hepatoma-derived growth factor (HDGF) family of proteins that contain a well conserved N-terminal amino acid sequence known as the HATH (homologous to amino terminus of HDGF) region.

Implicated in

\( t(9;11)(p22;p15) \) NUP98-PSIP1

Note: acute non lymphoblastic leukemia (ANLL), one case of transformed chronic myeloid leukemia (CML-BC).

Hybrid/Mutated Gene
5'NUP98 - 3'PSIP1

Abnormal Protein
Fuses the GLFG repeat domains of NUP98 to the COOH-terminus of PSIP1.

References


This article should be referenced as such: