

Gene Section

Mini Review

TAF15 (TAF15 TAF15 RNA polymerase II, TATA box binding protein (TBP)-associated factor, 68kDa)

Jean-Loup Huret

Genetics, Dept Medical Information, University of Poitiers, CHU Poitiers Hospital, F-86021 Poitiers, France (JLH)

Published in Atlas Database: September 2000

Online updated version : <http://AtlasGeneticsOncology.org/Genes/TAF2NID256.html>
DOI: 10.4267/2042/37666

This work is licensed under a Creative Commons Attribution-Noncommercial-No Derivative Works 2.0 France Licence.
© 2000 Atlas of Genetics and Cytogenetics in Oncology and Haematology

Identity

Other names: TAFIIN; TAF2N (TATA box binding protein (TBP)-associated factor, RNA polymerase II, N); RBP56 (RNA binding protein 56); TAFII68

HGNC (Hugo): TAF15

Location: 17q11.1-q11.2

DNA/RNA

Description

Spans 37kb; 16 exons.

Transcription

2.2 kb mRNA; alternative splicing: two isoforms of cDNAs consisting of 2144 and 2153 bp; coding sequence 1778 bp.

Protein

Description

589 and 592 amino acid, 62 kDa ; comprises a N-term ser, tyr, gln, gly -rich region, followed by a an RNA binding domain and a Cys2/Cys2 finger motif, and repeats in C-term.

Expression

Wide; in the fetus and in the adult.

Localisation

Nuclear.

Function

Single strand DNA/RNA binding protein; part of theTFIID and RNA polymerase II complex of proteins which assemble on the promoter to form a pre-initiation

complex (PIC); TFIID is composed of a TATA-box-binding protein (TBP) and a number of TBP-associated factors (TAFIIS); contribute to the activation of transcription.

Homology

With EWSR1 and FUS.

Mutations

Somatic

Overexpression of TAF2N-FLI-1 chimeras in NIH3T3 cells leads to oncogenic transformation.

Implicated in

Extraskeletal myxoid chondrosarcomas with t(9;17)(q22;q11) --> 5 prime TAF2N/3 prime TEC

Disease

A rare tumour: 2.3% of soft tissue sarcomas often localized in deep soft tissues of the lower extremities.

References

Reese JC, Apone L, Walker SS, Griffin LA, Green MR. Yeast TAFIIS in a multisubunit complex required for activated transcription. *Nature*. 1994 Oct 6;371(6497):523-7

Morohoshi F, Arai K, Takahashi EI, Tanigami A, Ohki M. Cloning and mapping of a human RBP56 gene encoding a putative RNA binding protein similar to FUS/TLS and EWS proteins. *Genomics*. 1996 Nov 15;38(1):51-7

Morohoshi F, Ootsuka Y, Arai K, Ichikawa H, Mitani S, Munakata N, Ohki M. Genomic structure of the human RBP56/hTAFII68 and FUS/TLS genes. *Gene*. 1998 Oct 23;221(2):191-8

Bertolotti A, Bell B, Tora L. The N-terminal domain of human TAFII68 displays transactivation and oncogenic properties. *Oncogene*. 1999 Dec 23;18(56):8000-10

Panagopoulos I, Mencinger M, Dietrich CU, Bjerkehagen B, Saeter G, Mertens F, Mandahl N, Heim S. Fusion of the RBP56 and CHN genes in extraskeletal myxoid chondrosarcomas with translocation t(9;17)(q22;q11). *Oncogene*. 1999 Dec 9;18(52):7594-8

Sjögren H, Meis-Kindblom J, Kindblom LG, Aman P, Stenman G. Fusion of the EWS-related gene TAF2N to TEC in

extraskeletal myxoid chondrosarcoma. *Cancer Res*. 1999 Oct 15;59(20):5064-7

Green MR. TBP-associated factors (TAFIIs): multiple, selective transcriptional mediators in common complexes. *Trends Biochem Sci*. 2000 Feb;25(2):59-63

This article should be referenced as such:

Huret JL. TAF15 (TAF15 TAF15 RNA polymerase II, TATA box binding protein (TBP)-associated factor, 68kDa). *Atlas Genet Cytogenet Oncol Haematol*. 2000; 4(4):190-191.
