

Gene Section

Short Communication

LHFP (lipoma HMGA2 fusion partner)

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Identity

HGNC (Hugo): LHFP

Location: 13q12

DNA/RNA

Description

Exon-intron structure not described.

Transcription

mRNA: ubiquitously: 2.4 kb; The ATG start codon is immediately preceded by an in-frame stop codon, and matches the most important positions of the Kozak consensus sequence; the 3'-UTR contains a CA-repeat.

Pseudogene

No pseudogenes according to pseudogene.org.

Protein

Description

Database searches with the predicted LHFP amino acid sequences revealed no significant similarity to any known gene or protein or any known protein motif.

Expression

Not known.

Localisation

Not known.

Function

Not known.

Homology

LHFP is a member of a family of proteins, which contains 6 members: LHFP, LHFPL1, LHFPL2, LHFPL3, LHFPL4, LHFPL5.

Mutations

Somatic

HMGA2/LHFP fusion gene encoding the three DNA-binding domains of HMGA2 followed by 69 amino acids encoded by frame-shifted LHFP sequences.

Implicated in

Solitary lipomas.

Disease

Benign tumors of adipose tissue.

Prognosis

Can be surgically removed with no recurrence in most cases.

Cytogenetics

More than 60% of solitary lipomas have an aberrant karyotype: 2/3 of these carry 12q15 rearrangements, most often translocations, affecting the HMGA2 gene: 1/4 of the latter have chromosomal region 3q27-q28 (containing LPP) as 12q15 translocation partner (creating a HMGA2/LPP fusion gene).

In the 3/4 others, multiple chromosomes have been found as translocation partner of 12q15, one of these being chromosomal region 13q12 (containing, amongst others, the LHFP gene).

Hybrid/Mutated gene

HMGA2/LHFP hybrid gene containing the first three exons of HMGA2, which are followed by exon(s) of LHFP; under the regulation of the HMGA2 promoter.

Abnormal protein

No known LHFP fusion protein. (HMGA2/LHFP fusion transcripts encode the three DNA-binding domains of HMGA2 followed by 69 amino acids encoded by frame-shifted LHFP sequences).

References

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