CFAP99 (Cilia and Flagella Associated Protein 99)

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Abstract

Review on CFAP99, with data on DNA, on the protein encoded, and where the gene is implicated.

Keywords CFAP99; Childhood Leukemia; Human development

Identity

Other names: LOC402160, LOC441005
HGNC (Hugo): CFAP99
Location 4p16.3

DNA/RNA

Description


Transcription

Human CFAP99 gene has 6 transcripts (Table 1).

Protein

Expression

RNA-seq data from 32 tissues reveal that CFAP99 is expressed in testis and fallopian tube, and to a lesser degree in lung, adrenal and thyroid glands (Figure 3).

Function

Unknown

Homology

The CFAP99 gene is conserved in chimpanzee, cow, mouse, rat, chicken, zebrafish, and frog (Table 2).

Figure 1 Cytogenetic bands within chromosome 4. The 4p16.3 is indicated by red.

Figure 2 Gene neighbours of CFAP99 on chromosome 4p16.3 (NCBI Homo sapiens Annotation Release 108).
Table 1 Transcripts of human CFAP99 gene (Ensembl release 84)

<table>
<thead>
<tr>
<th>Name</th>
<th>Transcript ID</th>
<th>bp</th>
<th>Protein</th>
<th>Translation ID</th>
<th>Biotype</th>
</tr>
</thead>
<tbody>
<tr>
<td>CFAP99-005</td>
<td>ENST00000635017</td>
<td>2298</td>
<td>714aa</td>
<td>ENSP00000488922</td>
<td>Protein coding</td>
</tr>
<tr>
<td>CFAP99-006</td>
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<td>459aa</td>
<td>ENSP00000425050</td>
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<td>Processed transcript</td>
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</table>

Table 2 Pairwise alignment of CFAP99 gene and protein sequences (in distance from human).

<table>
<thead>
<tr>
<th>Species</th>
<th>Gene Symbol</th>
<th>Identity (%) Gene</th>
<th>Identity (%) Protein</th>
</tr>
</thead>
<tbody>
<tr>
<td>H.sapiens</td>
<td>RP11-503N18.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>vs. P.troglodytes</td>
<td>LOC750504</td>
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<tr>
<td>vs. B.taurus</td>
<td>LOC100847979</td>
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<tr>
<td>vs. M.musculus</td>
<td>Gm21446</td>
<td>78.7</td>
<td>72.9</td>
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<tr>
<td>vs. R.norvegicus</td>
<td>RGD1564567</td>
<td>78.9</td>
<td>72.3</td>
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<tr>
<td>vs. G.gallus</td>
<td>LOC422887</td>
<td>56.7</td>
<td>52</td>
</tr>
<tr>
<td>vs. X.tropicalis</td>
<td>LOC100495334</td>
<td>56.2</td>
<td>50.2</td>
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<tr>
<td>vs. D.rerio</td>
<td>LOC100534701</td>
<td>51.8</td>
<td>41.9</td>
</tr>
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</table>

Implicated in

Figure 3 CFAP99 tissue expression. RNA-seq data from 32 tissues are reported as mean FPKM (Fragments Per Kilobase gene model and Million reads), corresponding to mean values of the different individual samples from each tissue type.
**Childhood Leukemia**

rs36086854 (minor allele A, major allele G) is a non-synonymous cSNP, a coding Single Nucleotide Polymorphism-cSNP which results in amino acid allelic variants, with an allelic frequency greater than 1 percent in population (Chen et al., 2013). The missense SNP was supposed to be associated with childhood acute lymphoblastic leukemia (ALL) (Singh, 2015).

**Human development**

CFAP99 was found to be down-regulated (2.15 fold) in the fetuses of obese woman, compared with the fetuses of lean woman (Edlow et al., 2016).

**References**


Singh SK. A Case-Only Genome-wide Association Study of Gender- and Age-specific Risk Markers for Childhood Leukemia FIU Electronic Theses and Dissertations. 2015. Paper 1832; http://digitalcommons.fiu.edu/cgi/viewcontent.cgi?article=2991context=etd

*This article should be referenced as such:*