**Gene Section**

**Mini Review**

**TPM4 (tropomyosin)**

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**Identity**

HGNC (Hugo): TPM4

Location: 19p13.1

**DNA/RNA**

**Transcription**

Alternate transcripts.

**Protein**

**Description**

248 amino acids, 29 kDa. Coiled-coil structure.

**Function**

Tropomyosins are actin-binding proteins; component of cytoskeletal microfilaments; tropomyosins mediate the effect of Ca2+ on the myosin-actin interaction in skeletal muscles, but their function in smooth muscles and other tissues is yet unknown.

**Homology**

Other tropomyosins: TPM1 (alpha) located in 15q22, TPM2 (beta), located in 9q13, and TPM3 located in 1q25.

**Implicated in**

**Inflammatory myofibroblastic tumors with t(2;19)(p23;p13.1)**

**Disease**

Rare soft tissue tumour found in children and young adults.

**Prognosis**

Good prognosis.

**Hybrid/Mutated gene**

5’ CLTC - 3’T TPM4-ALK.

**Abnormal protein**

221 N-term amino acids from TPM4 fused to the 562 C-term amino acids from ALK (i.e. the entire cytoplasmic portion of ALK with the tyrosine kinase domain); homodimerization of the fusion protein.

**Oncogenesis**

TPM4-ALK is constitutively activated.

**References**


This article should be referenced as such: