

Gene Section

Mini Review

MTCP1 (mature T cell proliferation 1)

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Identity

Other names: C6.1B

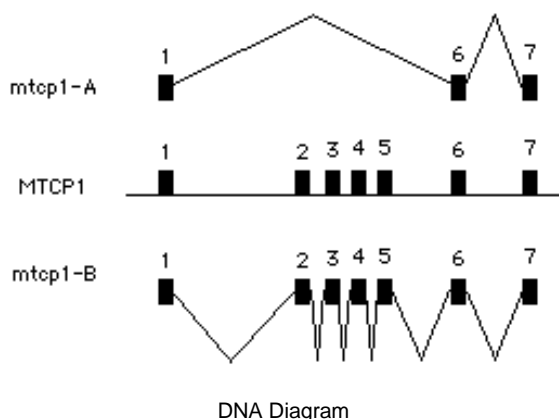
Location: Xq28

Local order: Centromere- Factor VIII - c6.1A - MTCP1 - telomere.



MTCP1 (Xq28) - Courtesy Mariano Rocchi, Resources for Molecular Cytogenetics. Laboratories willing to validate the probes are welcome: contact_rocchi@biologia.uniba.it.

DNA/RNA



Description

7 exons; about 10 kb.

Transcription

Complex; alternative splicing: two donor sites in exon 1; transcripts A, the most abundant, ubiquitous:

splicing from exon 1 to exon 6; transcripts B, rare: splicing from exon 1 to exon 2; initiation of the transcription: an alternative site of initiation of the transcription in intron 1 has been found in one tumour with a translocation breakpoint in intron 1.

Protein

Description

p8 MTCP1: coded by transcripts A, 68 amino acids; one domain formed by 3 alpha helices held together by two disulphide bridges in an antiparallel coiled-coil motif.

Expression

Ubiquitously expressed.

Localisation

Mitochondrial.

Function

Unknown.

Homology

None.

Description

p13 MTCP1: coded by transcripts B, 107 amino acids; one domain with a b-barrel topology.

Expression

Protein expression undetectable in physiological conditions.

Localisation

Cytosol.

Function

Unknown.

Homology

TCL1 (39% identity, similar tridimensional structure).

Implicated in

t(X;14)(q28;q12)/prolymphocytic leukaemia* → *TCRA-D/MTCP1

Disease

T-cell prolymphocytic leukaemia.

Cytogenetics

Associated with i(8q).

Hybrid/Mutated Gene

Unconstant TCRA-c6.1A transcripts have been described.

Abnormal Protein

None.

Oncogenesis

Overexpression of p13 MTCP1 is considered as critical in the oncogenetic mechanism.

t(X;7)(q28;q35)/prolymphocytic leukaemia* → *TCRB/MTCP1

Disease

T-cell prolymphocytic leukaemia.

Oncogenesis

Overexpression of p13 MTCP1.

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