**MALT1** mucosa associated lymphoid tissue lymphoma translocation gene 1

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**Identity**

Other names: MLT; huParacaspase

HGNC (Hugo): MALT1

Location: 18q21

**DNA/RNA**

Description

Centromere to telomere orientation; 17 exons spread over 80 kb of genomic sequence, start codon in exon 1, stop in exon 17.

Transcription

2 alternative transcripts, probably due to alternative polyadenylation.

**Protein**

Description

92 kDa; 824 amino acids; The prodomain contains a Death Domain (homotypic interaction module), followed by two immunoglobulin-like domains, a predicted caspace-like proteolytic domain (p20) and a region with homology to the murine VDJ4 sequence.

**Localisation**

Cytoplasmic.

**Homology**

With the predicted ORF from the C. elegans F22D3.6.

**Implicated in**

\( t(11;18)(q21;q21) / \) marginal zone B-cell lymphoma of MALT-type --> BIRC3 - MALT1

**Disease**

B-cell non Hodgkin lymphoma (NHL); marginal zone B-cell lymphoma (MZBCL) of mucosa-associated lymphoid tissue (MALT); found in extranodal MZBCL or MALT-type (50%), absent in splenic and nodal MZBCL.

**Prognosis**

For gastric MALT-type lymphomas, \( t(11;18) \) is a clonal marker for resistance to Helicobacter pylori eradication therapy and antigen independent growth.

**Cytogenetics**

\( t(11;18) \) is frequently associated with deletions affecting 3' API2 on chromosome 11 or 5' MALT1 on chromosome 18.

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![MALT1 protein - Baens Mathijs, Peter Marynen.](image-url)
Hybrid/Mutated gene
5’ API2 on chromosome 11q21 translocated on chromosome 18 in frame with 3’ MALT1. Deletions often exclude the expression of the reciprocal 5’ MLT - API2 3’ transcript.

Abnormal protein
All MALT-type lymphomas reported with a t(11;18) express an ‘in frame’ API2-MLT fusion protein with consistently the three BIR domains of API2 fused to the caspase p20 domain and VDJ4-like domain of MLT.

Oncogenesis
Transient expression of the API2-MLT fusion protein activates an NF-KB luciferase reporter construct, suggesting the involvement of this signaling cascade in MALT lymphomagenesis.

References


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