

Gene Section

Mini Review

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 exon1, 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 caspase-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

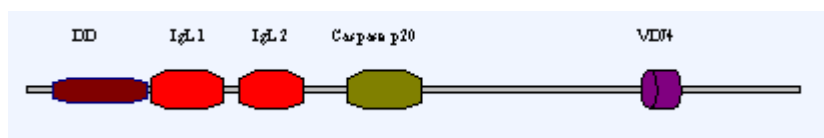
B-cell non Hodgkin lymphoma (NHL); marginal zone B-cell lymphoma (MZBCL) of mucosa-associated lymphoid tissue (MALT); found in extranodal MZBCL or MALT-type (50%), absent in splenic and nodal MZBCL.

Prognosis

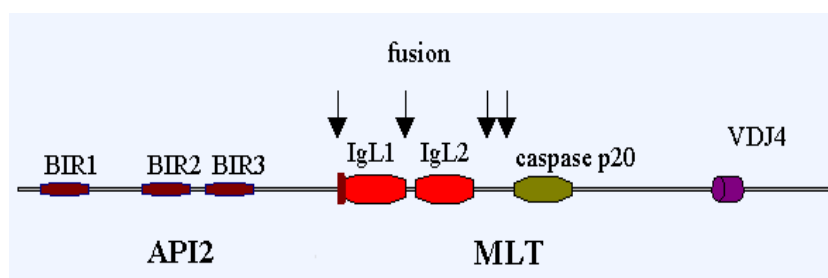
For gastric MALT-type lymphomas, t(11;18) is a clonal marker for resistance to *Helicobacter pylori* eradication therapy and antigen independent growth.

Cytogenetics

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



MALT1 protein - Baens Mathijs, Peter Marynen.



BIRC3/MALT1 fusion protein - Baens Mathijs, Peter Marynen

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- κ B luciferase reporter construct, suggesting the involvement of this signaling cascade in MALT lymphomagenesis.

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