Atlas of Genetics and Cytogenetics
in Oncology and Haematology

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Genes Section
Mini Review

RHOH (ras homolog gene family, member H)

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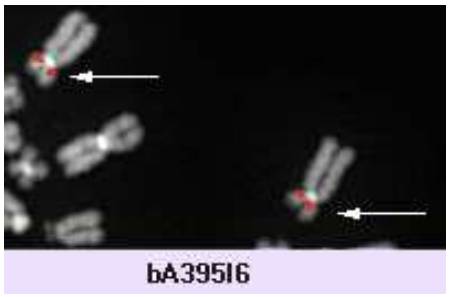
Identity

Other names: TTF (translocation three four); ARHH
Location: 4p13



RHOH (4p13) - Courtesy Mariano Rocchi, Resources for Molecular Cytogenetics. Laboratories willing to validate the probes are welcome: contact rocchi@biologia.uniba.it.

DNA/RNA

Description

Spans on a 35 kb genomic fragment; two exons separated by a large intron; small GTPase encoding gene.

Transcription

2.2 kb mRNA; coding sequence: 575 bp, located in the second exon.

Protein

Description

191 amino acids; 21 kDa; contains a GTP binding motif, a GTPase activity site, and a membrane localisation signal (CAAX box) in the very C-term.

Expression

Restricted to the hemopoietic tissues.

Localisation

Plasmic membrane.

Function

Small GTPase of the Rho subfamily; involved in signal transduction and cytoskeletal reorganization.

Homology

With all GTPases of the Ras superfamily.

Implicated in

t(3;4)(q27;p13)/NHL ⟶ BCL6/RHOH

Disease
Follicular NHL.

Cytogenetics
Observed as a secondary anomaly.

Hybrid/Mutated Gene
5' RHOH - 3' BCL6 and 5' BCL6 - 3' RHOH, are leading to two fusion transcripts.

Abnormal Protein
No fusion protein, but promoter exchange between both partner genes.

t(4;14)(p13;q32)/multiple myeloma ⟶ RHOH/?

Disease
Multiple myeloma.

Prognosis
Still unknown: only 1 available case.

Cytogenetics
Observed as a unique anomaly.

Hybrid/Mutated Gene
Not yet known (under study).

Abnormal Protein
No fusion protein.

References

Dallery E, Galiegue-Zouitina S, Collyn-d'Hooghe M, Quief S, Denis C, Hildebrand MP, Lantoine D, Deweindt C, Tilly H, Bastard C, et al. TTF, a gene encoding a novel small G protein, fuses to the lymphoma-associated LAZ3 gene by t(3;4) chromosomal translocation. Oncogene 1995 Jun 1;10(11):2171-8.

Dallery-Prudhomme E, Roumier C, Denis C, Preudhomme C, Kerckaert JP, Galiegue-Zouitina S. Genomic structure and assignment of the RhoH/TTF small GTPase gene (ARHH) to 4p13 by in situ hybridization. Genomics 1997 Jul 1;43(1):89-94.

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