XL ABL2 BA

Break Apart Probe

Order No.:
D-5138-100-OG

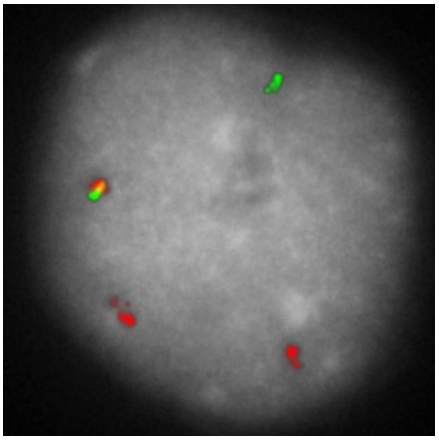
Description

XL ABL2 BA is designed as a break apart probe. The orange labeled probe hybridizes proximal to the breakpoint in the ABL2 gene region at 1q25.2 and is covering the proximal part of ABL2, the green labeled probe hybridizes distal to the breakpoint.

Clinical Details

Acute lymphoblastic leukemia (ALL) is a rare disease with approximately 1:100.000 new diagnoses per year. Around 3-5% of pediatric ALL and 25% of adult ALL are characterized by t(9;22), resulting in the BCR-ABL1 fusion gene, a constitutively active tyrosine kinase. Furthermore, BCR-ABL1 is genetically characterizing chronic myelogenous leukemia. Tyrosine kinase inhibitor treatment of BCR-ABL1-positive cases, which initially have a poor prognosis, dramatically improve the outcome. A novel high risk subtype called BCR-ABL1-like ALL or Philadelphia-like ALL was discovered based on similar gene expression profiles to BCR-ABL1-positive ALL and is characterized by aberrations, resulting in activation of tyrosine kinase signaling pathways. Prominent genes in the JAK/STAT activating group are CRLF2, EPOR and JAK2, members of the ABL-class fusions are ABL1, ABL2, CSF1R and PDGFRB. ´The 2016 revision to the World Health Organization classification of myeloid neoplasms and acute leukemia´ specifies B-lymphoblastic leukemia/lymphoma, BCR-ABL1–like as a provisional entity.
The ABL2 gene has been initially identified as a novel fusion partner of ETV6. ABL2 belongs to the Abelson family of non-receptor tyrosine kinases and is highly similar to ABL1. t(1;12)(q25;p13) results in a chimeric ETV6-ABL2 protein with a constitutive active tyrosine kinase.

- Iijima et al (2000) Blood 95:2126-2131
- Arber et al (2016) Blood 127:2391-2405
- Tasian et al (2017) Blood 130:2064-2072



XL ABL2 BA hybridized to HT-93 cells. The cell line was established from an AML FAB M3 patient and is carrying t(1;12) and t(15;17) resulting in ETV6/ABL2 and PML/RARA fusions. One aberrant interphase is shown. The expected normal signal pattern of XL ABL2 BA is two orange-green colocalization/fusion signals representing the two normal ABL2 loci. Cells with breakaparts typically have one normal orange-green colocalization/fusion signal plus one orange and one green signal clearly separate from one another. The additional orange signal in the aberrant cell shown was interpreted to be localized on a derivative chromosome 4, representing a duplication of parts of the q-arm of the derivative chromosome 1.

Clinical Applications:

- ALL

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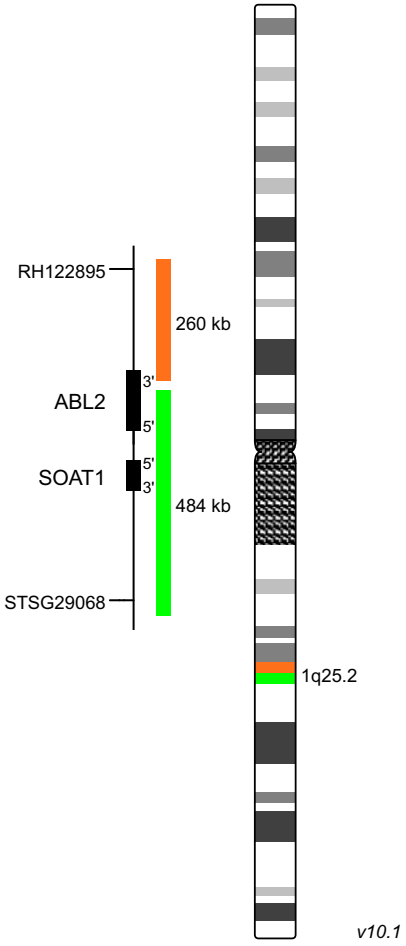

MetaSystems Probes

Related Products

Product	Size	Order No.
XL ETV6	100 µl	D-5073-100-OG
XL JAK2 BA	100 µl	D-5098-100-OG
XL 5q32 PDGFRB BA	100 µl	D-5104-100-OG

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