XL 22q11 IGL BA

Order No.:
D-5117-100-OG

Description

XL 22q11 IGL BA is designed as a break apart probe. The orange labeled probe hybridizes proximal to the breakpoint in the IGLV gene region at 22q11, the green labeled probe hybridizes distal to the breakpoint.

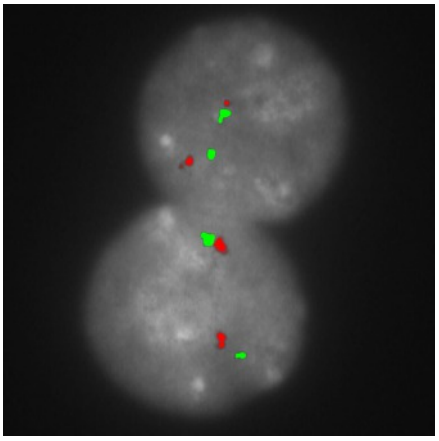
Clinical Details

The immunoglobulin (IG) genes for the kappa light chain at 2p12 (IGK), the lambda light chain at 22q11 (IGL) and the heavy chain at 14q32 (IGH) are recurrently involved in the development of Non-Hodgkin lymphomas. By far most frequently involved is IGH with more than 30 partner genes, less frequently IGK and IGL. IG-translocations are leading to juxtaposition of proto-oncogenes with IG enhancer sequences resulting in overexpression of the respective oncogene. Chromosomal translocations involving c-MYC at 8q24 and IG genes frequently and occur in Burkitt lymphoma. The Burkitt lymphoma is a rare but fast growing type of Non-Hodgkin lymphoma which is rapidly fatal if left untreated. About 75% of Burkitt lymphoma patients are carrying the MYC rearrangement t(8;14) while the remainder show a translocation between MYC and IGK or IGL. MYC-IG rearrangements are also involved in other B-cell malignancies as atypical Burkitt/Burkitt-like lymphoma, diffuse large B-cell lymphoma, follicular lymphoma, mantle cell lymphoma and multiple myeloma. Besides 8q24 (MYC), other translocation partners for IGL, as chromosomal regions 2p13-14, 3q27 (BCL6), 4q13, 6p25, 16p12, 17p11.2 and 17q21, are known.

FISH break-apart assays are valuable tools for the detection of IG light chains rearrangements independent of the translocation partner. Furthermore, double translocations have been described which are difficult to detect by PCR-based methods.

Literature:

- Martin-Subero et al (2002) Int J Cancer 98:470-474
- Einerson et al (2006) Leukemia 10:1790-1799
- Fujimoto et al (2008) Eur J Haematol 80:143-150



XL 22q11 IGL BA hybridized to normal lymphocytes. Two normal interphases are shown. The expected normal signal pattern of XL 22q11 IGL BA is two orange-green colocalization/fusion signals representing the two normal IGL loci. Translocations are seperating one orange-green colocalization/fusion resulting in one green, one orange and one orange-green colocalization/fusion signal. The green and orange probes are flanking the IGVL gene region which is relatively large in size. Thus, the distance between the differently labeled signals in normal cells might appear greater than observed with probes flanking smaller genes. The validation process and the determination of cutoffs should be adapted accordingly (Martin-Subero et al., 2002).

Clinical Applications:

- Lymphoma

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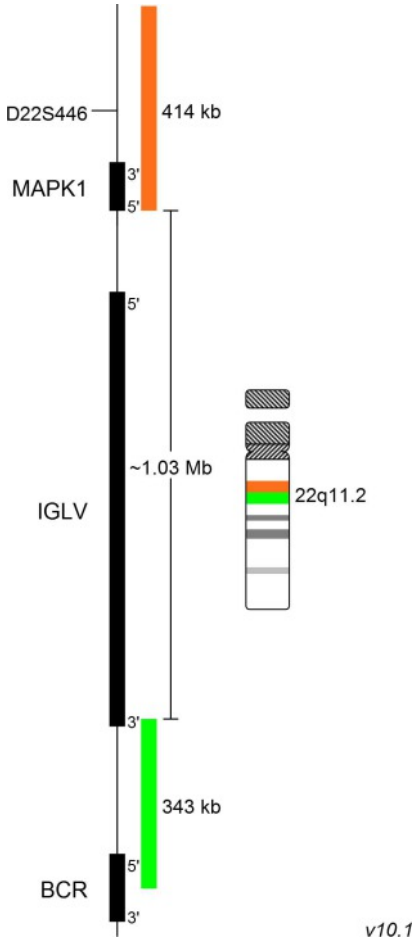

Related Products

Product	Size	Order No.
XL 2p11 IGK BA	100 µl	D-5116-100-OG
XL IGH BA	100 µl	D-5107-100-OG

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