XL t(9;11) MLLT3/ KMT2A DF

Translocation/Dual Fusion Probe

Order No.:
D-5133-100-OG

Description

XL t(9;11) MLLT3/KMT2A DF is designed as a dual fusion probe. The orange labeled probe spans the breakpoint at 9p21 (MLLT3), the green labeled probe spans the breakpoint at 11q23.3 (KMT2A).

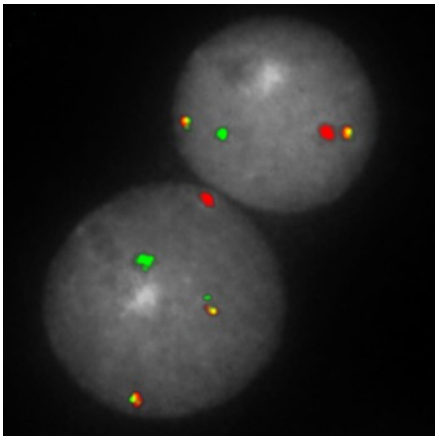
Clinical Details

The KMT2A (previous name ´MLL´) gene, located on chromosome 11q23, is rearranged in about 10% of all acute leukemia patients. Most of them suffer from acute lymphoblastic leukemia (ALL) or acute myeloid leukemia (AML), only a minority shows mixed lineage leukemia which has given the gene its original name ´MLL´. In infants, the incidence of KMT2A rearrangements in leukemia is 70-80%. KMT2A encodes a nuclear protein with methyltransferase activity and is part of multiprotein complexes involved in the regulation of target genes essential during early development and hematopoiesis. Today, more than 80 translocation partners of KMT2A have been identified. Translocations are resulting in in-frame fusions between the KMT2A part N-terminal to the break point cluster region and the respective fusion partners. The most common translocation partners in KMT2A associated leukemia, in the order of their prevalence are AFF1, MLLT3, MLLT1, MLLT10, ELL and AFDN.

KMT2A is involved in about 3-5% of adult de novo AML cases and the most common aberration in this subgroup is t(9;11)(p22;q23) involving the MLLT3 gene. Pediatric patients carrying this aberration do have a favorable outcome which is comparable to AML patients without KMT2A involvement. FISH is described as a reliable method for the identification of t(9;11).

Literature:

- Cavazzini et al (2006) Haematologica 91:381-385
- Meyer et al (2013) Leukemia 27:2165-2176
- Winters and Bernt (2017) Front. Pediatr. 5:4. doi: 10.3389/fped.2017.00004



XL t(9;11) MLLT3/KMT2A DF hybridized to bone marrow cells, two aberrant cells are shown. The expected normal signal pattern of XL t(9;11) MLLT3/KMT2A DF is two green and two orange signals, representing the two normal MLLT3 and KMT2A loci. Translocations such as t(9;11)(p22;q23) are typically observed as one orange and one green signal clearly separated and two orange-green colocalization/fusion signals.

Clinical Applications:

- ALL
- AML

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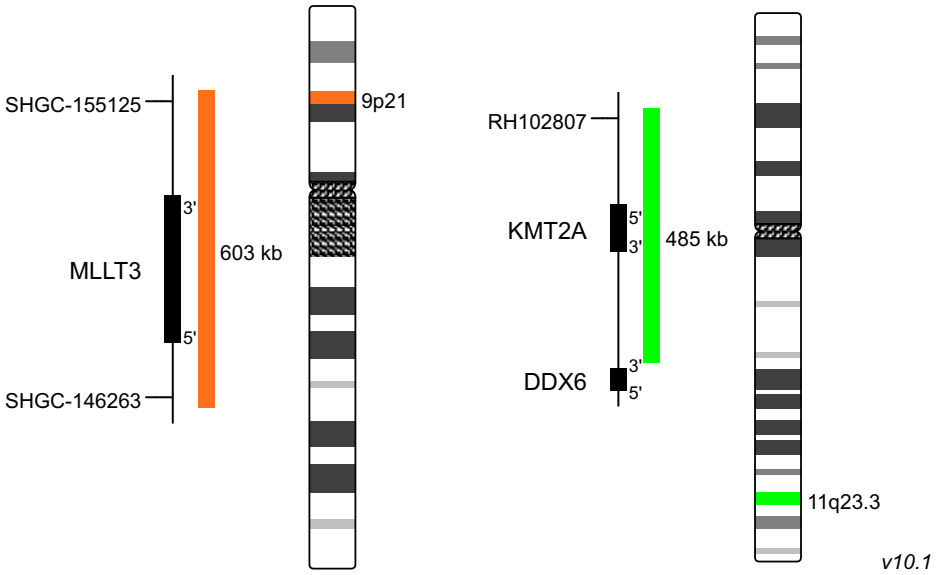

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Related Products

Product	Size	Order No.
XL MLL plus	100 µl	D-5060-100-OG

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