digitalMLPA™ NXtec™

D007 Acute Lymphoblastic Leukemia

MRC Holland

✓ **High resolution coverage** of 73 ALL-related genes and 8 regions
✓ **Gross copy number detection** with 250 probes across the genome
✓ **High dynamic range** for sensitive copy number detection
✓ **From DNA to sequencer in <24 hours**

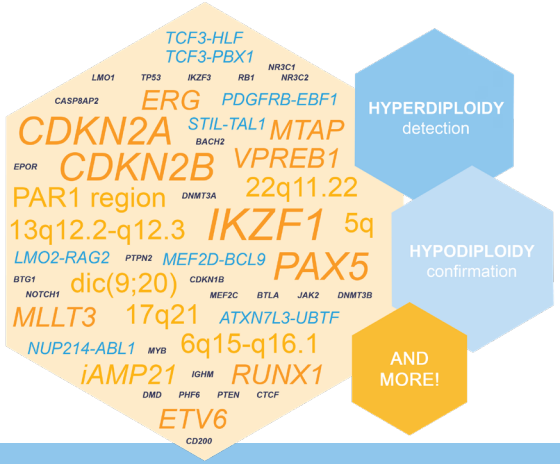
NXtec D007 Acute Lymphoblastic Leukemia is a new generation panel detecting an extensive number of ALL-associated genes and regions, as well as gross copy number alterations (CNAs). Bring down lab-handling time and optimise your resources with its targeted approach!

- Allows for the examination of B-cell differentiation and cell cycle control genes, T-ALL-associated alterations, iAMP21 and CNAs of the PAR1 region, and much more.
- Examines subtelomeric, pericentromeric and middle regions of the chromosomal arms to detect gross CNAs and hyper-/hypodiploidy by using 250 karyotyping probes.
- Combines genes and regions included in the well-established MLPA probemixes *P335 ALL-IKZF1, P202 IKZF1-ERG, P327 iAMP21-ERG, P329 CRLF2-CSF2RA-IL3RA, P383 T-ALL, P056 TP53.*

Recurrent and clonal genetic alterations in different subtypes of acute lymphoblastic leukemia (ALL) are well characterised and are associated with differences in disease outcome. MRC Holland's SALSA® MLPA® technology has already become a leading method for studying CNAs in ALL, especially *IKZF1* deletions (*IKZF1*^{del}).

To extend these capabilities, the **NXtec D007 Acute Lymphoblastic Leukemia** assay is based on digitalMLPA technology, which combines the broad scale of next-generation sequencing with high sensitivity for copy number detection. In ALL, the assay provides high resolution copy number detection beyond the scope of complementary techniques, such as RNA sequencing or FISH. In a single reaction, the assay can identify

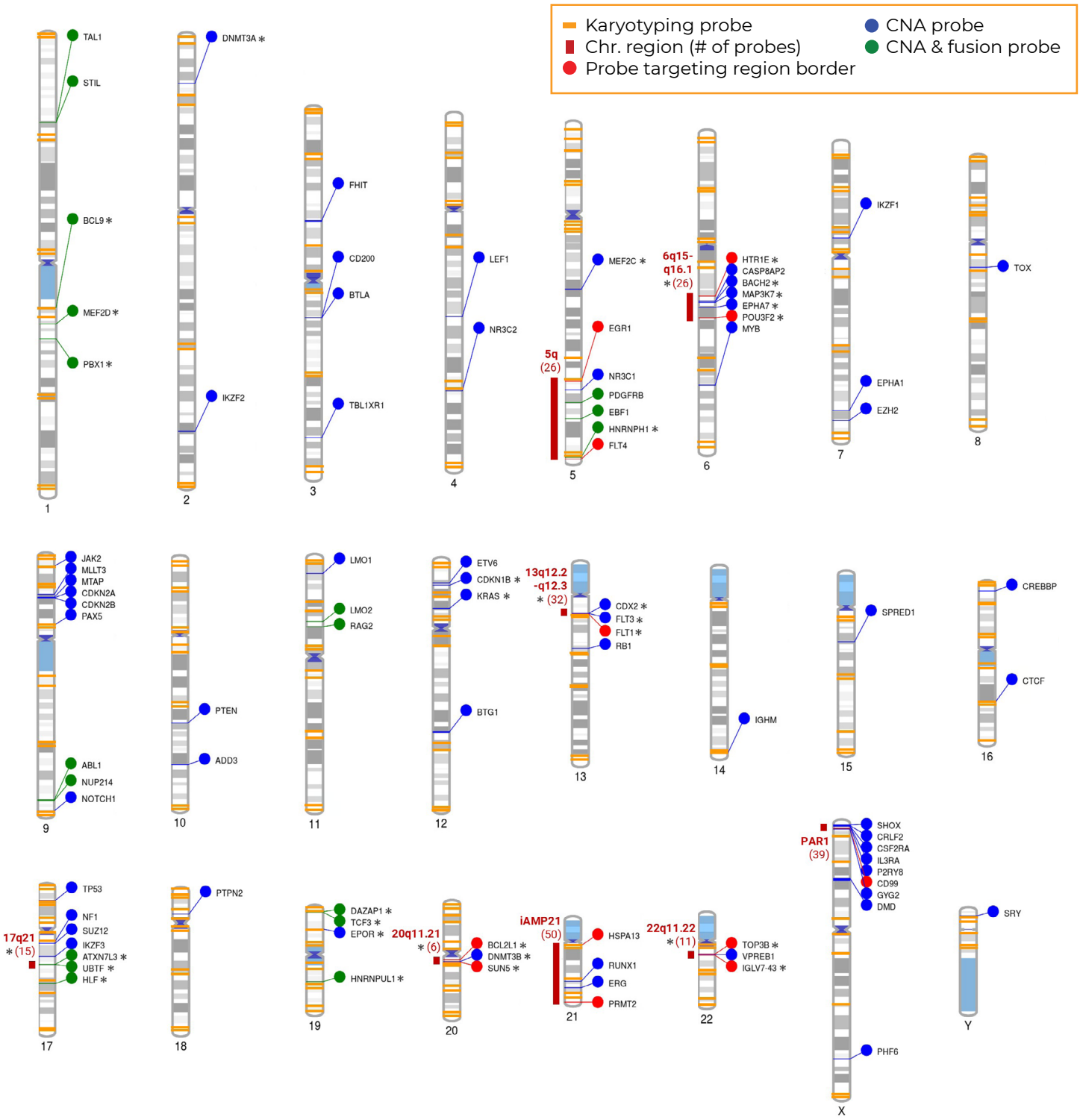
- Partial chromosome gains, losses and high-level amplifications
- Hyperdiploidy (detection); hypodiploidy (confirmation)
- Intrachromosomal gene fusions
- Intragenic CNAs



Up to 95% of cases detected in paediatric ALL with NXtec D007-based combination approach

An independent study by IIS La Fe, Valencia (Spain) found that combining the D007 ALL assay with RNA sequencing provides the most comprehensive molecular characterization approach in paediatric ALL, detecting relevant genetic markers in as many as 95% of cases (standard of care methods: 46.7%). *Gil JV et al. (2025) Br J Cancer 133:1744–1754.*

NXtec D007 Acute Lymphoblastic Leukemia - Target genes & regions



Resources required

- 20 ng of sample DNA, peripheral blood or bone marrow-derived
- Thermocycler with heated lid
- Illumina sequencing platform (all types), flow cell and reagents
- digitalMLPA NXtec probemix, reagents and barcode plates
- Free digitalMLPA Coffalyser data analysis software

References

Benard-Slagter A et al. (2017).
J Mol Diagn. 19:659-72.

Gil JV et al. (2025)
Br J Cancer 133:1744–1754

MRC Holland

Confidence in Copy Number Determination

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