NEW KIT!

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Improving Lives with Precision Diagnostics®

LymphoTrack® Flex

Clonality & SHM Solution

HIGH-THROUGHPUT SOLUTION

Designed to meet the growing demand for flexible, high-throughput and automation-ready solutions, **LymphoTrack Flex Assays** identify gene rearrangements and determine somatic hypermutation status. With the ability to multiplex targets and samples on high-throughput sequencing platforms, these assays provide input volume flexibility, apply scalability and maximize workflow efficiencies.

Sequencing results are analyzed by **LymphoTrack Enterprise Software**, a powerful Linux-based bioinformatics application that allows analytical automation, custom visualizations and LIMS integration for downstream reporting. This high-throughput solution is designed from the bottom up to enable scalable, automated laboratory environments.

KEY BENEFITS

- **Standardized Workflow** reduces errors and enables automated lab environments
- **Accelerated TAT** provides results in < 50 hours
- **Scalability** using up to 96 indices per target
- **Optimized Design** provides flexibility for additional applications
- **Dockerized Software** seamlessly integrates with analytical pipelines for LIMS reporting

BACKGROUND

Identifying clonality and determining the frequency of immunoglobulin (Ig) and T-cell receptor (TCR) gene rearrangements is crucial in understanding lympho-proliferative diseases.[1] These gene rearrangements serve as markers for clonal lymphocyte populations, aiding in the detection of blood cancers.[2,3]

The introduction of next-generation sequencing (NGS) has enhanced sensitivity and specificity in clonality assessment, allowing a more comprehensive analysis of Ig and TCR gene rearrangements, facilitating the detection of clonal populations even in samples with low tumor cell content. Recent improvements in NGS clonality assays include providing molecular evidence of clonality in malignant or suspect lymphoproliferative disorders and facilitating measurable residual disease (MRD) assessment.[1,4]

M-0177 Rev02 April 2025

ORDERING INFORMATION

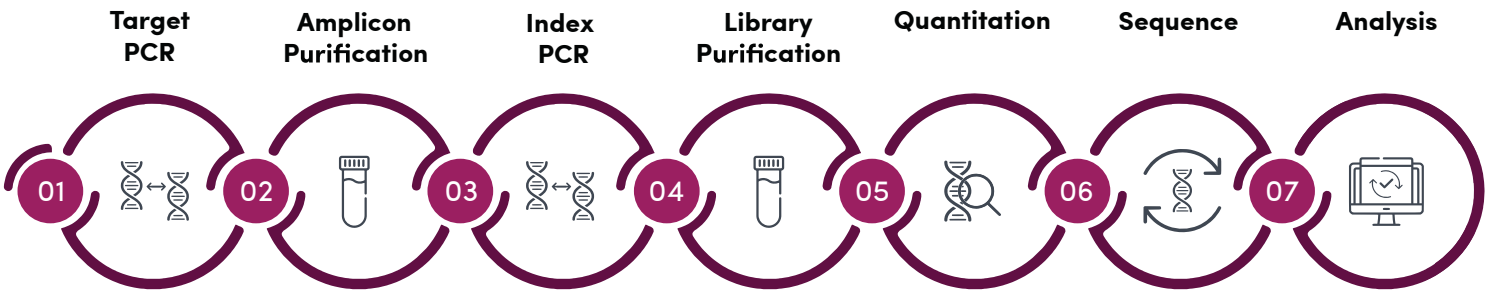
Catalog #	Products	Quantity
7100003	LymphoTrack Flex *IGH* FR1 Assay	96 reactions
7100004	LymphoTrack Flex IGHV Leader Assay	96 reactions
7100002	LymphoTrack Flex *TRG* Assay	96 reactions
S100003	LymphoTrack Enterprise Software	1 software package

SUMMARY

The LymphoTrack Flex Assays for hemato-oncology research represent highly sensitive, NGS reagents that accurately identify gene rearrangement diversity and clonality. Designed to be used with the Illumina® NextSeq™1000 System to provide flexibility, scalability and workflow efficiencies for high-throughput laboratories as well as additional applications (such as as MRD with DNA input volume flexibility).

LymphoTrack Flex Assay kits can process a total of 96 samples and controls. The supplementary Linux-based LymphoTrack Enterprise Software analysis generates output files that can be easily transferred into a LIMS for automated reporting.

WORKFLOW



LymphoTrack Flex Assays follow a basic NGS workflow in which high-quality genomic DNA (gDNA) is used as the assay input. The gDNA template is amplified via PCR using target-specific primers (PCR1), undergoes purification, then Illumina® sequencing adapters and unique dual indices (UDIs) are added to the target amplicons (PCR2). The purified, target-specific, UDI-labelled amplicons are then pooled into Single-Target Libraries, which are then purified and then quantified on a TapeStation. The Single-Target Libraries are then diluted and combined into a Final Library, which is sequenced on an Illumina® NextSeq™1000 System. After the sequencing run is complete, LymphoTrack Enterprise Software is used to analyze the resulting data.

REFERENCES

1. Groenen, PTJA et al. *Fron. Oncol.* 2023 Feb 07;13:2234-2243.
2. Fan, H, Robetorye, RS. *Methods in Molecular Biology* 2013;999:151-67.
3. Teramo A, et al. *Nat Commun* 2022 Jun 8;13(1):3298.
4. Faham M, et al. *Blood.* 2012 Dec 20;120(26):5173-80.