LymphoSign test

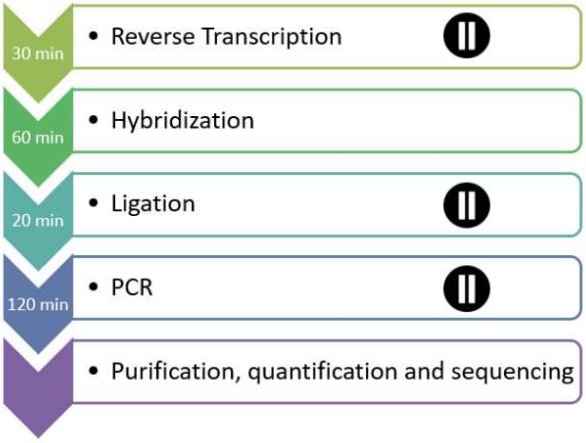
For the classification of lymphomas

Genexpath's **LymphoSign** solution evaluates the stage of differentiation of non-Hodgkin's lymphoma (NHL) tumor cells by weighting the RNA expression levels of more than 130 relevant genes markers. It is applicable to low-quality RNA samples extracted from sections of FFPE biopsies, fixed and included in paraffin, obtained in the clinic. A needle biopsy is also possible to obtain a sample of sufficient quality. Data are generated using a next-generation sequencer and require only 10^5 reads per sample.

They are then processed using our RT-MIS software which weights the contribution of different markers against a database of several thousand annotated samples representative of the heterogeneity of the NHL.

Using the test

The GENEXPATH **LymphoSign** test is based on a ligation-dependent RT-PCR (LD-RT-PCR) method. This semi-quantitative technique makes it possible to simultaneously evaluate the expression levels of a large number of genetic markers such as genes, somatic mutations or chromosomal translocations using pairs of oligonucleotide probes specific for each of these markers.



A simple and fast protocol

From a total RNA extract, four steps are sufficient to obtain the libraries.

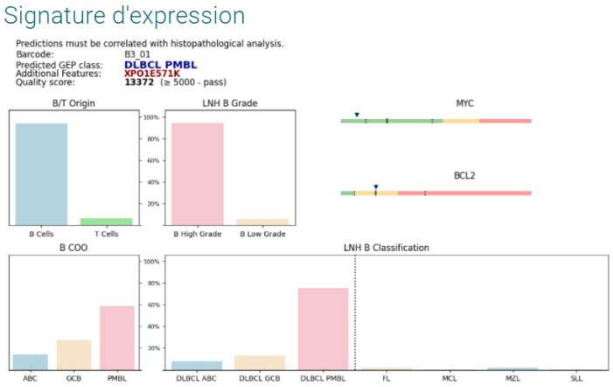
1. A reverse transcription step.
2. A step of hybridization of oligo-nucleotide probes.
3. A ligation step.
4. A PCR amplification step.
5. Then sequencing the libraries

No purification is necessary until the libraries are obtained, which limits the loss of material and ensures a very good sensitivity to this technique. In addition, the genetic sequences targeted by the probes are particularly short (between 40 and 60 bases) which ensures a very good robustness against the degradation of RNAs. This method is therefore a particularly suitable approach for the analysis of difficult biological samples such as tissue biopsies fixed and included in paraffin.

For each sample, about 10^5 sequences are sufficient to obtain an analyzable expression profile, which makes it possible to test a large number of samples in parallel on the same sequencing FlowCell. To optimize costs**, GENEXPATH LymphoSign** libraries can also be loaded at the same time as other sequencing libraries, generated by other methods

Post-PCR analysis based on dedicated software

Once the sequencing is complete, the FASTQ file can be uploaded to the RT-MIS platform which, after a few minutes of analysis, delivers a file containing an advance interpretation of the results and offers a complete solution to the users.



Handling duration	≃4h
Actual working time	≃1h-1h30
Type of Nucleic acid	RNA
Input quantity	Between 50 and 500ng of RNA in a volume of 2µl
Type of cancer	Non-hodgkin lymphoma
Contents of the reagent kit	Probes targeting 137 markers, barcodes, sequence primers
Method	Ligation dependent RT-PCR
Description	Compare the expression profiles obtained from genes, somatic mutations or chromosomal translocations with those of the main types of non-Hodgkin's lymphoma.
Equipment compatibility	MiSeq, NextSeq 500, NextSeq 550 Illumina®
Type of samples	Tissue biopsies at room temperature, frozen or fixed and included in paraffin
Technology	Next Generation Sequencing

CE *In vitro diagnostic medical device according to Directive (EU) 98/79/EC*

IVD *For in vitro diagnosis use only. Please read the user manual before use.*

Contact

Genexpath, 113 avenue des martyrs de la résistance 76100 Rouen, France
Phone : +33 (0)2 78 08 98 69
E-Mail : contact@genexpath.com
Website : www.genexpath.com

Last Document update : 01/06/2022