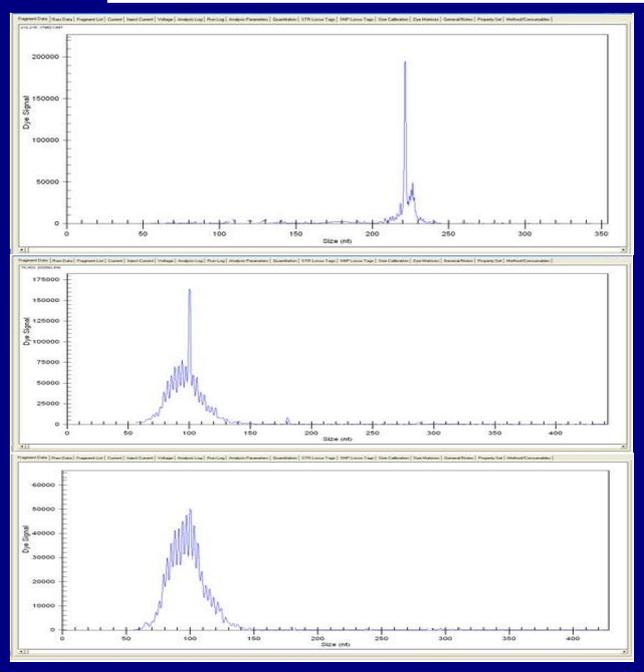
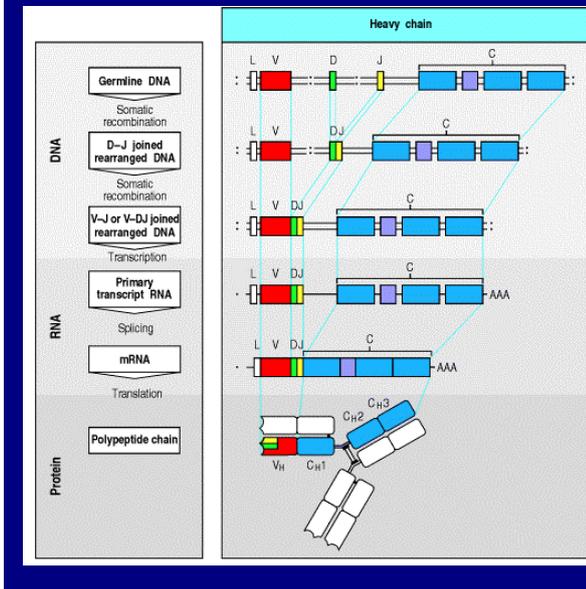
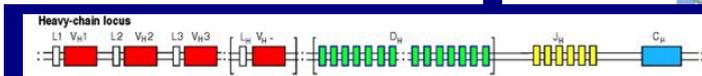
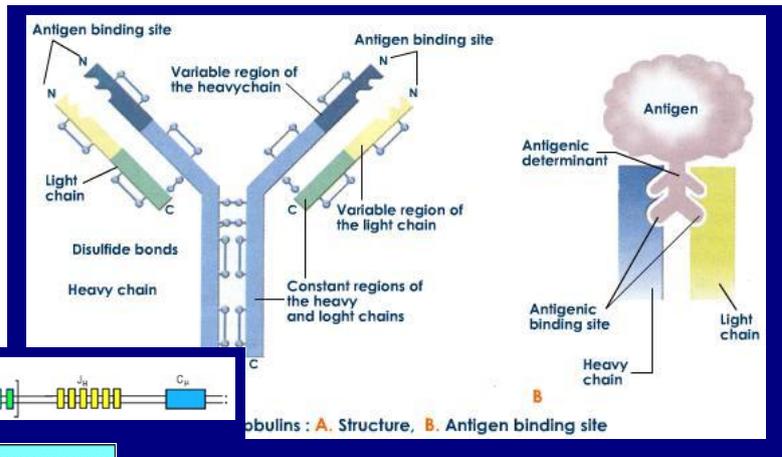




*System for clonality testing of the Ig heavy chain (IgH), TCR gamma (TCRG) and TCR beta (TCRB) gene rearrangements by PCR-nested and capillary electrophoresis.*

## B & T CELL LYMPHOMA KIT -FL

cod. BL.01FL/TL.01FL/TC.01FL



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## How does the kit work?

In patients with suspected **lymphoproliferative disorders**, discrimination between reactive and malignant cell populations is assessed by histomorphology or cytomorphology supplemented with immunohistochemistry or flow cytometric immunophenotyping. However in several patients diagnosis is more complicated and less straightforward. In such case, molecular clonality studies of immunoglobulin (Ig) and/or T-cell receptor (TCR) gene rearrangement have proved to be useful additional diagnostic tool.

Ig/TCR gene rearrangements occur sequentially in the earliest stages of lymphoid differentiation and thus are present in almost all immature and mature lymphoid cells.

As lymphomas and leukemias are derived from a single malignant transformed lymphoid cells, virtually all of them contain **one** or several clonal Ig and/or TCR gene rearrangements. The diagnosis of malignant B- and T-cell proliferation is therefore supported by the finding of Ig/TCR gene clonality, whereas reactive lymphoproliferations show polyclonality rearranged Ig/TCR genes.

In the last two decades, **PCR-based** analysis of Ig/TCR rearrangement has gradually replaced Southern blot analysis as gold standard method for clonality testing.

Our systems for clonality testing allow the analysis of the Ig heavy chain (**IgH**) gene rearrangement and of the TCR gamma (**TCRG**) and beta (**TCRB**) gene rearrangements occurring during lymphocyte development by **PCR-nested** and **capillary electrophoresis**.

The *B cell lymphoma kit* is a systems for the identification of clonal **Ig Heavy Chain** rearrangements by semi-nested PCR. It analyses both FR2 and FR3 segments by two separate semi-nested double step PCR. Both reactions use a common 3'-primer that recognizing consensus JH region while 5' primers recognize the conserved sequence of FR2 and FR3 of the VH genes.

The kit for identification of clonal **TCR-γ** analyzes rearrangement involving V<sub>γ1-9</sub>-JGT<sub>1/2</sub>-JGT<sub>3</sub> segments by two semi-nested double step PCR; consensus primers covering V<sub>γ1</sub>-V<sub>γ9</sub> segments are used in both reactions; primer consensus covering JGT<sub>1/2</sub> and JGT<sub>3</sub> are used respectively in the first and in the second reactions.

The kit for clonality testing of **TCR-β** uses consensus V<sub>β</sub>, specific D<sub>β</sub> and specific J<sub>β</sub> primers combined together in 3 multiplex reactions, detecting complete V<sub>β</sub>-J<sub>β</sub> and incomplete D<sub>β</sub>-J<sub>β</sub>.

Capillary electrophoresis is required to resolve the different amplified products.

**Starting samples:** fresh or frozen tissue, FFPE tissue

**DNA isolation method:** QIAamp DNA mini kit (Qiagen),

**DNA Sequencer:** CEQ 8000/8800 Genetic Analysis System (Beckman Coulter); 310, 3100, 3130, 3730, 3500 Genetic Analyzers (Applied Biosystems).

## Kit contents

Label	Contents
<i>B cell lymphoma kit -FL (BL.01FL)</i>	
FR2 I° & II° step MIX	Mix for amplification of VDJ IgH rearrangement
FR3 I° & II° step MIX	
ExperTaq polymerase	Taq DNA polymerase
<i>T cell lymphoma kit -FL (TL.01FL)</i>	
1°-2° step TCR MIX A	Mix for amplification of VJ TCRγ rearrangement
1°-2° step TCR MIX B	
ExperTaq polymerase	Taq DNA polymerase
<i>TCRB rearrangement kit -FL (TC.01FL)</i>	
TCRB-AB amplification MIX	Mix for amplification of VDJ TCRβ rearrangement
TCRB-C amplification MIX	
HS ExpertTaq polymerase	Taq DNA polymerase



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