

**SAMPLE MOLECULAR (PCR) REPORT**

**DIAGNOSIS:**

**ABC Hospital A06-00500 (Blocks B)**

Lymph node, right axilla, biopsy:

1. **Clonal** immunoglobulin heavy chain gene rearrangement identified by PCR.
2. **Clonal** T cell receptor gamma chain gene rearrangement identified by PCR (please see comments).

**COMMENTS:**

A clonal T cell receptor-gamma chain gene rearrangement is identified by PCR and confirms the histologic impression of an angioimmunoblastic T cell lymphoma. Additional studies were also performed to examine B cell clonality by IgH PCR, and also showed a clonal immunoglobulin heavy chain gene rearrangement (using FR III primers - see image below) which can be seen in ~10-30% of angioimmunoblastic T cell lymphomas (Smith JL et al., Amer J Pathol 196(2):661 2000). The clonal T cell receptor-gamma chain gene rearrangement identified by PCR using Vγ11/Jγ primers (at 141 base pairs) is not identified in previous studies of the bone marrow (PP2006-00100), suggesting that the oligoclonal pattern noted in the bone marrow is likely reactive in nature and does not appear to be involved by lymphoma.

**SPECIMEN INFORMATION:**

A1 = A06-00500, A, 1 block  
 A2 = A06-00500, B, 1 block

**RECEIVED FOR THE FOLLOWING:**

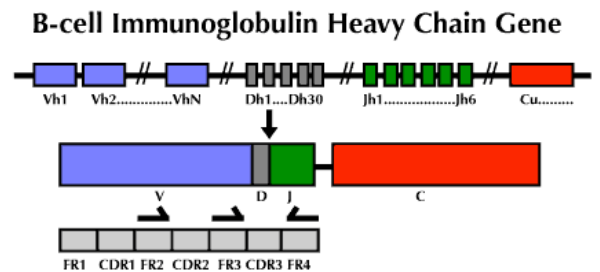
IgH chain and TCR gamma chain gene rearrangement studies

**IgH/TCR-gamma PCR METHODS/FINDINGS:**

DNA was extracted from formalin-fixed paraffin-embedded tissue scraped from an unstained deparaffinized and rehydrated slide using *Gene Releaser*™ resin or from whole blood/bone marrow/fresh tissue using *PureGene DNA Extraction*™ according to the manufacturer's protocol with minor modifications. The DNA of interest was PCR amplified using the primer sets specified below. Each primer set contains a fluorescently labeled primer. The PCR amplified products are analyzed by capillary gel electrophoresis. Normal housekeeping genes β-globin and β-actin are PCR amplified as internal controls for each molecular assay performed, and appropriate negative and positive external controls are also included in each assay.

Block B (Surgery Date: 06/29/06) -Axilla LN (PP2006XXXXX A2)

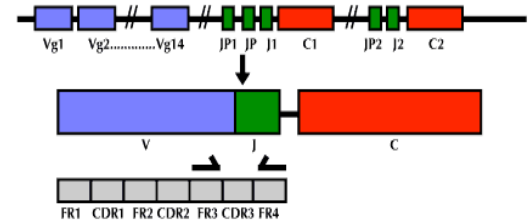
IgH-gamma PCR	Results
IgH-FR3	Clonal
IgH-FR2	No amplification
β-globin/β-actin	Positive-Positive



Block B (Surgery Date: 06/29/06) -Axilla LN (PP2006XXXXX A2)

TCR-gamma PCR	Results
V $\gamma$ f1/V $\gamma$ 10-J $\gamma$	Polyclonal
V $\gamma$ 9/V $\gamma$ 11-J $\gamma$	Clonal
$\beta$ -globin/ $\beta$ -actin	Positive-Positive

T-cell Receptor Gamma Chain Gene



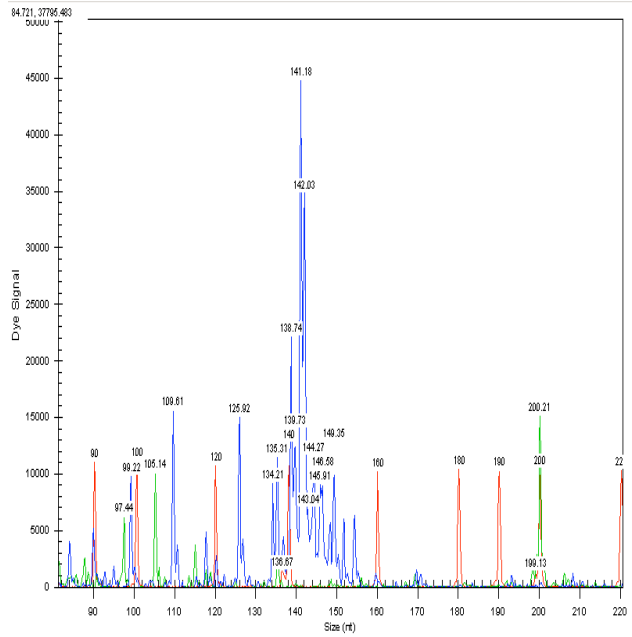
\*\*\*ELECTRONICALLY SIGNED\*\*\*

Steven J. Kussick, M.D., Ph.D.  
Pathologist

In compliance with CMS regulations, the pathologist's signature on this report indicates that the case has been personally reviewed, and the diagnosis made or confirmed by the Pathologist.

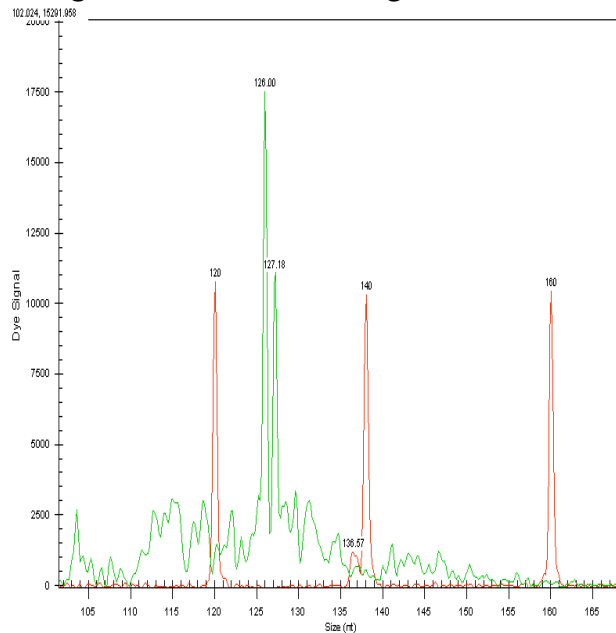
NOTE: Some of the tests reported here may have been developed and performance characteristics determined by PhenoPath Laboratories. They have not been cleared or approved by the U.S. Food and Drug Administration (FDA). However, the FDA has determined that such clearance or approval is not necessary. Pursuant to the requirements of CLIA, this laboratory has established and verified the accuracy and precision of all tests, and additional information about these tests is available upon request. PhenoPath Laboratories is certified under the Clinical Laboratory Improvement Amendments of 1988 (CLIA) as qualified to perform high complexity clinical laboratory testing.

### TCR- $\gamma$ Chain Gene Rearrangement Studies



TCR- $\gamma$  chain PCR using  $V\gamma9/J\gamma$  (green, 140-220 bp) and  $V\gamma11/J\gamma$  (blue, 80-140 bp) primer sets (DNA ladder shown in red)

### IgH Chain Gene Rearrangement Studies



IgH chain PCR using FR III primer set (green, with control DNA ladder shown in red)