The MPN with hypereosinophilia fluorescence in situ hybridization (FISH) analysis was normal. No deletion of CHIC2 or rearrangement of PDGFRA, PDGFRB or FGFR1 was observed.

**SPECIFIC PROBE RESULTS:**

**CHIC2/PDGFRA:** NORMAL  
\[nuc \text{ ish} 4q12(\text{SCFD2/FIP1L1, LNX/CHIC2, PDGFRA})x2[100]\]

**PDGFRB:** NORMAL  
\[nuc \text{ ish} 5q33(\text{PDGFRB}x2)[100]\]

**FGFR1:** NORMAL  
\[nuc \text{ ish} 8p12(\text{FGFR1}x2)[100]\]

This analysis is limited to abnormalities by the specific probes included in the study. These results do not reflect other cytogenetic changes that may be observed by standard chromosome analysis. Chromosome studies may provide additional information.
This test was developed and its performance characteristics determined by Laboratory Corporation of America Holdings (LabCorp). It has not been cleared or approved by the U.S. Food and Drug Administration. The FDA has determined that such clearance or approval is not necessary.

Director Review: Rachel Burnside, PhD, FACMG

Comment: 01

For inquiries, the physician may contact Branch: 800−222−7566 Lab: 800−735−4087
LCLS Specimen Number: 257-225-9019-0
Patient Name: SAMPLE REPORT, 511444
Date of Birth: 06/12/1985
Gender: F
Patient ID: 
Lab Number: YU16-72773 F
Indications: 

Test: MPN w/Hypereosinophilia FISH
Cells Counted: 100/PROBE
Cells Analyzed: 100/PROBE

FISH RESULT: NO DELETION OF CHIC2 OR REARRANGEMENT OF PDGFRA, PDGFRB OR FGFR1 OBSERVED

INTERPRETATION:

The MPN with hypereosinophilia fluorescence in situ hybridization (FISH) analysis was normal. No deletion of CHIC2 or rearrangement of PDGFRA, PDGFRB or FGFR1 was observed.

SPECIFIC PROBE RESULTS:
CHIC2/PDGFRA: NORMAL
    nuc ish 4q12(SCFD2/FIP1L1, LNX/CHIC2, PDGFRA)x2[100]
PDGFRB: NORMAL
    nuc ish 5q33(PDGFRB)x2[100]
FGFR1: NORMAL
    nuc ish 8p12(FGFR1)x2[100]

This analysis is limited to abnormalities by the specific probes included in the study. These results do not reflect other cytogenetic changes that may be observed by standard chromosome analysis. Chromosome studies may provide additional information.

This test was developed and its performance characteristics determined by Laboratory Corporation of America Holdings (LabCorp). It has not been cleared or approved by the U.S. Food and Drug Administration. The FDA has determined that such clearance or approval is not necessary.
**Client/Sending Facility:**
LabCorp Test Master
Test Account
3060 South Church Street
Burlington, NC 27215
Ph: (336)436-8645
POE-00

**LCLS Specimen Number:** 257-225-9019-0
**Account Number:** 90000999

**Patient Name:** SAMPLE REPORT, 511444
**Ordering Physician:**

**Date of Birth:** 06/12/1985
**Specimen Type:** BLOOD

**Gender:** F
**Client Reference:**

**Patient ID:**
**Date Collected:** 09/13/2016

**Lab Number:** YU16-72773 F
**Date Received:** 09/14/2016

______________________________
Rachel Burnside, PhD, FACMG
Board Certified Cytogeneticist

Arundhati Chatterjee, MD
Medical Director

Peter Papenhausen, PhD
National Director of Cytogenetics

Technical component performed by Laboratory Corporation of America Holdings,
1904 TW Alexander Drive, RTP, NC, 27709-0153 (800) 345-4363

Professional Component performed by LabCorp CLIA 34D1008914, 1904 TW Alexander Dr, Research Triangle Park, NC 27709. Medical Director, Arundhati Chatterjee, MD.

Integrated Oncology is a brand used by Esoterix Genetic Laboratories, LLC, a wholly-owned subsidiary of Laboratory Corporation of America Holdings.

This document contains private and confidential health information protected by state and federal law.
### ABNORMAL REPORT

**MPN w/Hypereosinophilia FISH; FISH Analyze 100−300 cells X3; FISH DNA Probe X7; Chromosomes**

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Result</th>
<th>Flag</th>
<th>Units</th>
<th>Reference Interval</th>
<th>Lab</th>
</tr>
</thead>
<tbody>
<tr>
<td>MPN w/Hypereosinophilia FISH</td>
<td>BLOOD</td>
<td>01</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cells Counted</td>
<td>Comment:</td>
<td>01</td>
<td>200/PROBE</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cells Analyzed</td>
<td>Comment:</td>
<td>01</td>
<td>200/PROBE</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FISH Result</td>
<td>Comment:</td>
<td>01</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interpretation</td>
<td>Comment:</td>
<td>01</td>
<td>SCLL RELATED CLONE DETECTED</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The MPN fluorescence in situ hybridization (FISH) targeted panel was positive for FGFR1 gene rearrangement, three fusion signals for PDGFRα, and deletion of one PDGFRB signal.

FGFR1 gene rearrangements are typically observed in 8p11 myeloproliferative syndrome (EMS) characterized by multilineage involvement of lymphoid (T- and B-cell) and myeloid lineages. This disorder often has a variable presentation such as polycythemia vera (PV) that evolves to an atypical myeloproliferative neoplasm (MPN) or T-cell lymphoblastic lymphoma (LBL) that progresses to acute myelogenous leukemia (AML) (see references). Generally, the disease transforms rapidly into an acute leukemia and is associated with an adverse prognosis that is refractory to current chemotherapies.

**SPECIFIC PROBE RESULTS:**

FGFR1: ABNORMAL 

nuc ish 8p12(FGFR1x2)(5'FGFR1 sep 3'FGFR1x1)[125/200].
CHIC2/PDGFRα: ABNORMAL
nuc ish 4q12(SCFD2/FIP1L1,LNX/CHIC2,PDGFRα)x3[125/200]

PDGFRβ: ABNORMAL
nuc ish 5q33(PDGFRβx1)[125/200]

This analysis is limited to abnormalities by the specific probes included in the study. These results do not reflect other cytogenetic changes that may be observed by standard chromosome analysis. Chromosome studies may provide additional information.

References:
Mozziconacci MJ, et al., 2008 Leuk Res 32(8):1304-8. PMID# 18096225
Park TS, et al., 2008 Cancer Genet Cytogenetics 181(2):93-9. PMID# 18295660

This test was developed and its performance characteristics determined by Laboratory Corporation of America Holdings (LabCorp). It has not been cleared or approved by the U.S. Food and Drug Administration. The FDA has determined that such clearance or approval is not necessary.

Director Review: Rachel Burnside, PhD, FACMG

For inquiries, the physician may contact Branch: 800-222-7566 Lab: 800-735-4087
**Patient Name:** SAMPLE REPORT, 511444  
**Date of Birth:** 06/12/1985  
**Gender:** F  
**Patient ID:**  
**Lab Number:** YU16-72775 F  
**Indications:**  
**Test:** MPN w/Hypereosinophilia FISH  
**Cells Counted:** 200/PROBE  
**Cells Analyzed:** 200/PROBE  

**FISH RESULT:** 62.5% OF NUCLEI POSITIVE FOR FGFR1 REARRANGEMENT; 62.5% OF NUCLEI POSITIVE FOR PDGFRB DELETION AND THREE PDGFRA SIGNALS  

**INTERPRETATION:** SCLL RELATED CLONE DETECTED

The MPN fluorescence in situ hybridization (FISH) targeted panel was positive for FGFR1 gene rearrangement, three fusion signals for PDGFRA, and deletion of one PDGFRB signal.  
FGFR1 gene rearrangements are typically observed in 8p11 myeloproliferative syndrome (EMS) characterized by multilineage involvement of lymphoid (T- and B-cell) and myeloid lineages. This disorder often has a variable presentation such as polycythemia vera (PV) that evolves to an atypical myeloproliferative neoplasm (MPN) or T-cell lymphoblastic lymphoma (LBL) that progresses to acute myelogenous leukemia (AML) (see references). Generally, the disease transforms rapidly into an acute leukemia and is associated with an adverse prognosis that is refractory to current chemotherapies.

**SPECIFIC PROBE RESULTS:**  
**FGFR1:** ABNORMAL  
  nuc ish 8p12(FGFR1x2)(5'FGFR1 sep 3'FGFR1x1)[125/200]

**CHIC2/PDGFRα:** ABNORMAL  
  nuc ish 4q12(SCFD2/FIP1L1,LNX/CHIC2,PDGFRα)x3[125/200]

**PDGFRβ:** ABNORMAL  
  nuc ish 5q33(PDGFRBx1)[125/200]

This analysis is limited to abnormalities by the specific probes included in the study. These results do not reflect other cytogenetic changes that may be observed by standard chromosome analysis. Chromosome studies may provide additional information.

**References:**  
Mozziconacci MJ, et al., 2008 Leuk Res 32(8):1304-8. PMID# 18096225  
LCLS Specimen Number: 257-225-9020-0
Account Number: 90000999

Patient Name: SAMPLE REPORT, 511444
Ordering Physician: 

Date of Birth: 06/12/1985
Specimen Type: BLOOD

Gender: F
Client Reference: 

Patient ID: 
Date Collected: 09/13/2016

Lab Number: YU16-72775 F
Date Received: 09/14/2016

Park TS, et al., 2008 Cancer Genet Cytogenetics 181(2):93–9. PMID# 18295660

This test was developed and its performance characteristics determined by Laboratory Corporation of America Holdings (LabCorp). It has not been cleared or approved by the U.S. Food and Drug Administration. The FDA has determined that such clearance or approval is not necessary.

Rachel Burnside, PhD, FACMG
Board Certified Cytogeneticist

Arundhati Chatterjee, MD
Medical Director

Peter Papenhausen, PhD
National Director of Cytogenetics

Technical component performed by Laboratory Corporation of America Holdings, 1904 TW Alexander Drive, RTP, NC 27709-0153 (800) 345-4363
Professional Component performed by LabCorp CLIA 34D1008914, 1904 TW Alexander Dr, Research Triangle Park, NC 27709. Medical Director, Arundhati Chatterjee, MD. Integrated Oncology is a brand used by Esoterix Genetic Laboratories, LLC, a wholly-owned subsidiary of Laboratory Corporation of America Holdings.

This document contains private and confidential health information protected by state and federal law.