**FISH Pediatric ALL Oncology**

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The B−cell ALL fluorescence in situ hybridization (FISH) panel analyses targeting oncogenes CDKN2A(P16), BCR/ABL1, KMT2A(MLL), ETV6/RUNX1, TCF3 and the pericentromeric regions of chromosomes 4, 10, and 17, were normal in all nuclei examined.

**SPECIFIC PROBE RESULTS:**

- **CDKN2A(P16): NORMAL**
  - nuc ish 9p21(CDKN2Ax2)[200]

- **BCR/ABL1: NORMAL**
  - nuc ish 9q34(ASS,ABL1)x2,22q11.2(BCRx2)[200]

- **KMT2A(MLL): NORMAL**
  - nuc ish 11q23(KMT2Ax2)[200]

- **ETV6/RUNX1: NORMAL**
  - nuc ish 12p13(ETV6x2),21q22(RUNX1x2)[200]

- **TCF3: NORMAL**
  - nuc ish 19p13.3(TCF3x2)[200]
CHR 4, 10, 17: NORMAL
nuc ish 4cen(D4Z1x2),10cen(D10Z1x2),17cen(CEP17x2)[200]

This analysis is limited to abnormalities detectable by the specific probes included in the study. FISH results should be interpreted within the context of a full cytogenetic analysis and clinical evaluation.

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.

Comment:

Director Review: James H. Tepperberg, PhD, FACMG

01
**FISH RESULT:** NORMAL ALL PANEL

**INTERPRETATION:** NORMAL ALL FISH PANEL

The B-cell ALL fluorescence in situ hybridization (FISH) panel analyses targeting oncogenes CDKN2A(P16), BCR/ABL1, KMT2A(MLL), ETV6/RUNX1, TCF3 and the pericentromeric regions of chromosomes 4, 10, and 17, were normal in all nuclei examined.

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LCLS Specimen Number: 259-225-9003-0
Account Number: 90000999
Patient Name: SAMPLE REPORT, 510324
Ordering Physician:
Date of Birth: 06/12/1985
Specimen Type: BLOOD
Gender: F
Client Reference:
Patient ID:
Date Collected: 09/14/2016
Lab Number: YU16-73240 F
Date Received: 09/15/2016

James H. Tepperberg, PhD, FACMG
Arundhati Chatterjee, MD
Board Certified Cytogeneticist
Medical Director
Peter Papenhausen, PhD
National Director of Cytogenetics

Technical component performed by Laboratory Corporation of America Holdings,
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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.
FISH Pediatric ALL Oncology

**Comment:**

The B-cell ALL panel targeted fluorescence in situ hybridization (FISH) analysis of the specimen received was positive for three RUNX1 gene signals. FISH analyses targeting oncogenes BCR/ABL1, KMT2A (MLL), ETV6, CDKN2A (P16), TCF3 and the pericentromeric regions of chromosomes 4, 10 and 17 were normal in all nuclei examined.

The presence of three RUNX1 gene signals is consistent with trisomy 21. Acquired trisomy 21 is commonly observed in B-cell ALL. Constitutional trisomy 21 should be excluded.

**SPECIFIC PROBE RESULTS:**

- **ETV6/RUNX1:** ABNORMAL (NO FUSION)
  
  nuc ish 12p13 (ETV6x2), 21q22 (RUNX1x3) [150/200]

- **CDKN2A (P16):** NORMAL
  
  nuc ish 9p21 (CDKN2A x2) [200]

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Director Review: Comment:
   James H. Tepperberg, PhD, FACMG
FISH RESULT:  75.0% OF NUCLEI POSITIVE FOR THREE RUNX1 SIGNALS

INTERPRETATION:  APPARENT ALL RELATED CLONE DETECTED

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