

# Newborn Screening Quality Assurance Program

**PROFICIENCY TESTING**

**TREC  
Quarterly Report**

Volume 3, No. 3

August 2013

## INTRODUCTION

This report is the Quarterly summary of all data reported within the specified data-reporting period for the QUARTER 3, 2013, pilot proficiency testing (PT) program for T-cell receptor excision circle (TREC) analysis in dried-blood spots (DBS) to detect severe combined immunodeficiency (SCID). The attached tables provide the certification profiles for the distributed specimens, the verification of your reported data, and the summary of reported categorical results. We distribute this PT report to all participants, state laboratory directors, and program colleagues by request.

On July 8, 2013, a panel of five unknown DBS specimens was distributed to sixteen laboratories in the United States to analyze TREC content in peripheral blood.

## PARTICIPANT RESULTS

This panel consisted of five DBS specimens prepared from human blood, including cord blood from unaffected individuals and modified adult blood depleted of mononuclear cells or leukocytes (specimens 313R1, 313R2, 313R3, 313R4, and 313R5).

Evaluations are based on the source of specimen and previously established consensus categorical results from core laboratories.

All laboratories used laboratory-developed tests. We requested only qualitative, categorical results: 'No follow-up required (Screen Negative)' or 'Follow-up required' on each specimen since quantitative results vary significantly between laboratories using different test methods and calibrators.

We processed data from sixteen participants. No false-positive and no false negative assessments were reported.

The Newborn Screening Quality Assurance Program will ship next Quarter's pilot PT specimens for TREC on October 7, 2013. ❖

## ACKNOWLEDGMENTS

We would like to thank Barbara Waters-Pick (Duke University Medical Center) for the supply of umbilical cord blood.

**CDC/APHL**

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NEWBORN SCREENING QUALITY ASSURANCE PROGRAM

T-CELL RECEPTOR EXCISION CIRCLE (TREC) ANALYSIS IN DRIED-BLOOD SPOTS

Quarter 3– August 2013

FREQUENCY OF REPORTED CLINICAL ASSESSMENTS

<b>Specimen Number</b>	<b>No follow-up required (Screen Negative)</b>	<b>Follow-up required</b>
313R1	0	16
313R2	16	0
313R3	16	0
313R4	0	16
313R5	16	0

LABORATORY METHODS

<b>Method</b>	<b>Number of Laboratories</b>
63 Real Time PCR	16
Other	0

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SPECIMEN CERTIFICATION

<b>Specimen Number</b>	<b>No follow-up required (Screen Negative)</b>	<b>Follow-up required</b>	<b>Specimen Description</b>
313R1		2	Blood with 'buffy-coat' removed - TREC and reference gene levels both below standard reference range.
313R2	1		Normal specimen; below average TREC level, reference gene level within standard reference range
313R3	1		Normal specimen; below average TREC level, reference gene level within standard reference range
313R4		2	SCID-like specimen; low or no TREC, reference gene level within standard reference range
313R5	1		Normal specimen; medium TREC level, reference gene level within standard reference range

1 = No follow-up required (Screen Negative)

2 = Follow-up required

This **NEWBORN SCREENING QUALITY ASSURANCE PROGRAM** report is an internal publication distributed to program participants and selected program colleagues. The laboratory quality assurance program is a project cosponsored by the **Centers for Disease Control and Prevention (CDC)** and the **Association of Public Health Laboratories**.

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