Newborn Screening
Quality Assurance Program

PROFICIENCY TESTING | **TREC Quarterly Report**

Volume 2, No. 4 | November 2012

INTRODUCTION

This report is the Quarterly summary of all data reported within the specified data-reporting period for the QUARTER 4, 2012, 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 October 1, 2012, a panel of five unknown DBS specimens was distributed to eleven 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 412R1, 412R2, 412R3, 412R4, and 412R5).

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 eleven 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 January 7, 2013.

ACKNOWLEDGMENTS

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

CDC/APHL

This program is cosponsored by the Centers for Disease Control and Prevention (CDC) and the Association of Public Health Laboratories (APHL).

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NEWBORN SCREENING QUALITY ASSURANCE PROGRAM

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

Quarter 4– NOVEMBER 2012

FREQUENCY OF REPORTED CLINICAL ASSESSMENTS

Specimen Number	**No follow-up required (Screen Negative)**	**Follow-up required**
412R1	0	11
412R2	11	0
412R3	0	11
412R4	11	0
412R5	11	0

LABORATORY METHODS

Method	**Number of Laboratories**
63 Real Time PCR	11
Other	0

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

Quarter 4– NOVEMBER 2012

SPECIMEN CERTIFICATION

Specimen Number	**No follow-up required (Screen Negative)**	**Follow-up required**	**Specimen Description**
412R1		2	Leukocyte-reduced blood; TREC and reference gene levels both below standard reference range
412R2	1		Normal specimen; TREC level below population average but within reference range; reference gene within standard reference range
412R3		2	SCID-like specimen; low or no TREC, reference gene level within standard reference range
412R4	1		Normal specimen; TREC level below population average but within reference range; reference gene within standard reference range
412R5	1		Normal specimen; TREC level below population average but within reference range; reference gene 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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