



DATE: July 19, 2018

FROM: Dr. Grace Aldrovandi, ACTG Network and IMPAACT Network Laboratory Principal Investigator

TO: ACTG and IMPAACT Laboratories

CC: ACTG Laboratory Science Group,
IMPAACT Laboratory Center

SUBJECT: TRANSITION FROM the Xpert MTB/RIF to Xpert MTB/RIF Ultra

****Please forward this information to the relevant laboratory personnel at your site****

As of July 2017, Cepheid launched the Xpert MTB/RIF Ultra test for detection of Mycobacterium tuberculosis complex (MTBC) from patients suspected of having pulmonary tuberculosis. This new test provides greater sensitivity for the detection of MTBC and higher specificity for the rifampin-resistance associated mutations of the *rpoB* gene, while keeping the test workflow the same as the current Xpert MTB/RIF test.

The catalogue numbers for the Xpert MTB/RIF Ultra test are:

- GXMTB/RIF-ULTRA-10 (kit of 10 tests)
- GXMTB/RIF-ULTRA-50 (kit of 50 tests)

Xpert MTB/RIF Ultra runs on the same GeneXpert platform as Xpert MTB/RIF; however, Xpert MTB/RIF Ultra requires GeneXpert® software version 4.7b or higher. Please reference Appendix 1, Cepheid distributed a memo in April 2018 regarding a new Assay Definition File (ADF) for Xpert MTB/RIF Ultra. If your software version does not meet these criteria, please contact your local Cepheid representative or call Technical Support. Special pricing for the cartridges is available for research study use; please contact your local Cepheid representative.

Laboratories should start transitioning from the Xpert MTB/RIF to the Xpert MTB/RIF Ultra test. For ongoing ACTG and IMPAACT studies, please continue using the Xpert MTB/RIF test. ACTG and IMPAACT laboratories participating in A5300B/I2003B PHOENIX are required to validate and implement the Xpert MTB/RIF Ultra test as soon as possible before receiving laboratory approval to participate in the study. pSMILE is working with Smartspot Quality to provide external quality assurance (EQA) panels for the Xpert MTB/RIF Ultra test. Further information about the EQA will come directly from pSMILE once available.

The ACTG and IMPAACT networks require that all laboratories using the Xpert MTB/RIF Ultra test to support Network studies must perform a complete assay validation. We have outlined the requirements that need to be met before implementing the Xpert MTB/RIF Ultra test.

ACTG and IMPAACT Requirements for implementing the Xpert MTB/RIF Ultra test:

1. Complete a validation of the Xpert MTB/RIF Ultra test.
 - Prepare a validation plan for the new method and send it to your pSMILE representative and appropriate network laboratory center for review **before** conducting testing.
 - Resources on performing method/instrument validations are available in the NIH/NIAID/DAIDS Good Clinical Laboratory Practices (GCLP) guidelines: <https://www.niaid.nih.gov/sites/default/files/gclp.pdf>
 - A validation plan and summary template for the Xpert MTB/RIF Ultra test are available at the pSMILE website: <http://resources.psmile.org/resources/equipment/smile-validation-guidelines/mycobacteriology/xpert-mtb-rif-ultra-verification-plan-template/view> and



<http://resources.psmile.org/resources/equipment/smile-validation-guidelines/mycobacteriology/xpert-mtb-rif-ultra-verification-summary-template/view>. We

recommend laboratories use this as a resource to plan validation.

- After completion of validation work, submit a validation summary report (that includes testing results and evaluation criteria used) to pSMILE and appropriate network laboratory center for review and approval before the new method is used for clinical trial testing.
2. To initiate study testing your laboratory must successfully perform at least one EQA round for IMPAACT and at least two EQA rounds for ACTG and continue to demonstrate successful EQA performance using the new method.
- The Networks considers ongoing successful EQA performance to be passage of the previous 2-of-3 EQA panels with a passing percent grade of 80% or greater.

Please contact the ACTG Laboratory Science group (actglaboratorycoordination@s-3.com) and IMPAACT Laboratory Center (IMPAACT.QAQC@fstrf.org) if you have any questions or concerns with the content of this memo.

Attachment:

- Appendix 1: Cepheid MTB/RIF Ultra newADF Customer Letter