

Xpert BCR-ABL IS Panel C130

INTENDED USE:

The Xpert BCR-ABL IS Panel C130 is intended for use as a reference material to monitor the *in vitro* quantitative detection of BCR-ABL1 translocation mRNA e14a2/b3a2 transcripts and the ABL1 endogenous control mRNA transcript when analyzed using the Xpert® BCR-ABL Ultra assay on Cepheid GeneXpert® Instrument Systems.

The Philadelphia chromosome, a translocation between the ABL1 gene on chromosome 9 and the BCR gene on chromosome 22, designated as t(9;22), generates the fusion gene BCR-ABL1 which is present in most chronic myelogenous leukemia patients. Quantitative monitoring of BCR-ABL1 transcripts in patient blood is an important tool for measuring response to therapy. In 2009, the World Health Organization (WHO) developed a panel of four BCR-ABL1 primary standards to establish an international scale (IS), a standardized method for reporting assay results as a ratio of fusion transcripts to control gene transcripts (%IS), useful to the harmonization of patient care across laboratories worldwide.^{1,2} The %IS can also be expressed as molecular response (MR), the log reduction from a standardized baseline of 100% on the IS. The Xpert BCR-ABL IS Panel C130 is traceable to the WHO International Genetic Reference Panel for Quantitation of BCR-ABL Translocation (WHO Reference Panel), NIBSC code 09/138, and designed for use with the Xpert BCR-ABL Ultra assay which reports on the international scale.

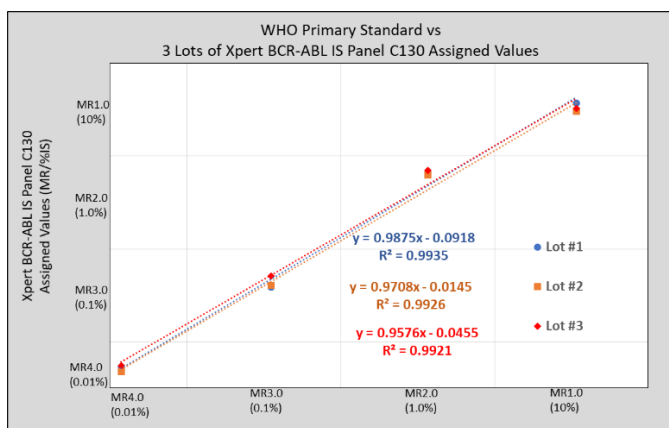
PRODUCT SUMMARY and PRINCIPLE:

Xpert BCR-ABL IS Panel C130 consists of six components. Each component contains an increasing concentration of BCR-ABL1 (e14a2/b3a2) RNA transcript mixed with a fixed concentration of ABL1 RNA transcript to produce six levels, 0.0%IS, 0.0032%IS, 0.01%IS, 0.1%IS, 1%IS and 10%IS. %IS values traceable to WHO International Genetic Reference Panel, NIBSC code 09/138, are assigned to each lot of Xpert BCR-ABL IS Panel C130 by following NIBSC Instructions for Use³.

Validation and Value Assignment

MMQCI manufactured 3 lots of Xpert BCR-ABL IS Panel C130 secondary standards and tested them alongside the WHO Primary Reference Panel, using one cartridge lot of the Xpert BCR-ABL Ultra assay. Grubbs outlier and Bland-Altman tests were applied, lot-specific Correction Factors (CF) were calculated, and WHO-traceable %IS values were assigned to each level of Xpert BCR-ABL IS Panel C130 for all 3 lots according to NIBSC Instructions for Use³. Figure 1 compares the 3 lots of C130 secondary standards to WHO primary standards.

Figure 1. Three lots of Xpert BCR-ABL IS Panel C130 calibrated to the WHO International Genetic Reference Panel.



COMPOSITION:

Xpert BCR-ABL IS Panel C130 is comprised of 12 single use bottles, 2 bottles of each %IS level. The C130 bottles contain 4 mL of synthetic BCR-ABL1 RNA transcript and synthetic ABL1 control gene RNA transcript, suspended in a stabilizing matrix with a non-infectious solution of buffers and preservatives.

STORAGE and STABILITY:

Xpert BCR-ABL IS Panel C130 should be stored at -25°C to -15°C. Unopened Xpert BCR-ABL IS Panel C130 material is stable through the expiration date printed on the kit label when continuously stored frozen. Xpert BCR-ABL IS Panel C130 components are for single use. Discard after use according to your local and federal regulations.

INSTRUCTION FOR USE:

1. Allow the Xpert BCR-ABL IS Panel C130 component to be tested to come completely to room temperature (18°C – 25°C), approximately 30 minutes, until bottles are warm to the touch.
2. Immediately before pipetting, thoroughly mix the C130 panel component by inverting 8 times followed by 2 pulse vortexes, 2-3 seconds each at maximum speed.
3. Add 4mL of the C130 panel component to 100µL of Proteinase K in a conical tube, as you would a blood specimen.
4. Continue with the assay procedure according to manufacturer's instructions.
5. Discard after use according to local and federal regulations.

PRECAUTIONS and WARNINGS:

- Use the control as provided. Do not dilute or transfer to another storage tube.
- This product is intended for *in vitro* analytical testing and is provided for **Research Use Only, not for use in diagnostic procedures.**
- This product is slightly cloudy in appearance.
- This product does not contain any biological material of human or animal origin. Universal Precautions are NOT required when handling this product.
- Xpert BCR-ABL IS Panel C130 cannot be cloned, sold, or transferred without the explicit written consent of MMQCI.

EXPECTED VALUES:

Locate the appropriate WHO-traceable %IS/MR values assigned to your lot of Xpert BCR-ABL IS Panel C130 on the Data Sheet found in each kit box of Xpert BCR-ABL IS Panel C130. It is important to notice that the WHO-traceable values were assigned by testing with one lot of Xpert BCR-ABL Ultra cartridges. **Each laboratory should establish their own %IS ranges and perform a linear regression with an expected correlation coefficient (R²) at or above 0.9.** Please refer to assay manufacturer for expected assay performance specifications.

Routine use of reference materials that are consistent lot to lot assists the laboratory in identifying shifts, trends, and increased frequency of random errors caused by variations in the test system.

ORDERING INFORMATION:

Xpert BCR-ABL IS Panel C130

Part Number: C130-OUS

Kit Contains: 12 bottles x 4mL

2 of each %IS level 1-6

References

¹Branford S et al. Desirable performance characteristics for BCR-ABL measurement on an international reporting scale to allow consistent interpretation of individual patient response and comparison of response rates between clinical trials. *Blood* 2008, 112:3330-38

²White HE et al. Establishment of the first World Health Organization International Genetic Reference Panel for quantitation of BCR-ABL mRNA. *Blood* 2010, 116:e111-117

³1st WHO International Genetic Reference Panel for quantitation of BCR-ABL translocation by RQ-PCR NIBSC code: 09/138 Instructions for use (Version 4.0, Dated 13/12/2012)