For *in vitro* diagnostic use

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Xpert BCR-ABL IS p210 Linearity Panel C207

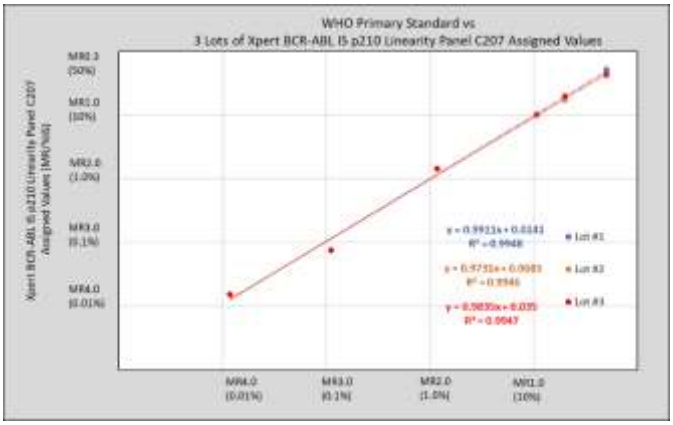
INTENDED USE:
The Xpert BCR-ABL IS p210 Linearity Panel C207 is intended for use as an assayed external quality control to monitor the performance of the *in vitro* quantitative detection of BCR-ABL1 translocation mRNA e14a2/b3a2 transcripts and the ABL1 endogenous control mRNA transcript when analyzed 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 p210 Linearity Panel C207 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 p210 Linearity Panel C207 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, 0.01%IS, 0.1%IS, 1%IS, 10%IS, 20%IS and 50%IS, when analyzed on the GeneXpert system with the Xpert BCR-ABL Ultra assay. The %IS values, traceable to WHO Reference Panel, NIBSC code 09/138, are assigned to each lot of Xpert BCR-ABL IS p210 Linearity Panel C207 according to NIBSC Instructions for Use[3].

Validation and Value Assignment
MMQCI manufactured 3 lots of Xpert BCR-ABL IS p210 Linearity Panel C207 and tested them alongside the WHO Reference Panel, using one cartridge lot of the Xpert BCR-ABL Ultra assay. Grubb's outlier and a regression analysis was applied, lot-specific Correction Factors (CF) were calculated, and WHO-traceable %IS/MR values were assigned to each level of Xpert BCR-ABL IS p210 Linearity Panel C207 for all 3 lots according to NIBSC Instructions for Use[3]. Figure 1. compares the 3 lots of Xpert BCR-ABL IS p210 Linearity Panel C207 to the 4 members of the WHO Reference Panel. New lots of Xpert BCR-ABL IS p210 Linearity Panel C207 will be assigned lot-specific %IS/MR values in the same manner.

Figure 1. Three lots of Xpert BCR-ABL IS p210 Linearity Panel C207 calibrated to the WHO International Genetic Reference Panel for Quantitation of BCR-ABL Translocation.



COMPOSITION:
Xpert BCR-ABL IS p210 Linearity Panel C207 is comprised of 12 single use bottles, 2 bottles of each %IS level. The C207 bottles contain 4mL 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 p210 Linearity Panel C207 should be stored at -25°C to -15°C. Unopened Xpert BCR-ABL IS p210 Linearity Panel C207 material is stable through the expiration date printed on the kit label when consistently stored frozen. Xpert BCR-ABL IS p210 Linearity Panel C207 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 p210 Linearity Panel C207 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 C207 panel component by inverting 8 times followed by 2 pulse vortexes, 2-3 seconds each at maximum speed.
3. Add 4mL of the C207 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* diagnostic use only.
- Use Xpert BCR-ABL IS p210 Linearity Panel C207 only with Xpert BCR-ABL Ultra assay.
- Xpert BCR-ABL IS p210 Linearity Panel C207 is not intended to be used for calibration of the Xpert BCR-ABL Ultra assay.
- 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 p210 Linearity Panel C207 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 p210 Linearity Panel C207 on the Data Sheet found in each kit box of Xpert BCR-ABL IS p210 Linearity Panel C207. 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/MR ranges. Linearity can be confirmed by performing a linear regression with an expected correlation coefficient (R^2) at or above 0.9. Please refer to the Xpert BCR-ABL Ultra Package Insert for expected assay performance specifications.

Routine use of quality controls 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 p210 Linearity Panel C207

Part Number: C207

CONT Kit Contains: 12 bottles x 4mL; 2 x 0.01%IS, 2 x 0.1%IS, 2 x 1%IS, 2 x 10%IS, 2 x 20%IS and 2 x 50%IS

References
[1]Branford 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
[2]White 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
[3]1st WHO International Genetic Reference Panel for Quantitation of BCR-ABL Translocation, NIBSC code: 09/138 Instructions for use (Version 9.0, Dated 22/10/2020)