



BioGX Lyophilized Far Red Dye Calibration Kit for Applied Biosystems QuantStudio™ 5 Real-Time PCR system

Product number series 720-0219

PRODUCT DESCRIPTION

The lyophilized BioGX Far Red Dye Calibration Kit enables calibration for Cy®5.5 dye on Applied Biosystems QuantStudio™ 5 Real-Time PCR system.

Each product package of BioGX Lyophilized Far Red Dye Calibration Kit contains 1 pouch with 1 tube containing lyophilized calibration dye for Far Red optical channel calibration.

INTENDED USE

The lyophilized BioGX Far Red Dye Calibration Kit is for research use only and designed to be used only with real-time PCR instruments.

ADDITIONAL EQUIPMENT REQUIRED BUT NOT PROVIDED

- Molecular grade water
 - BioGX Rehydration Water (Part number: 800-0035-12)
- Personal Protective Equipment (PPE)
- Biological Safety Cabinet
- Bench vortex
- Micro-centrifuge
- Calibrated pipettes and sterile barrier filter tips.
- Applied Biosystems QuantStudio™ 5 Real-Time PCR system consumables:
 - Thermo Fisher MicroAmp™ optical 96-well reaction plate with barcode, 0.2 mL (catalog no. 4306737)
 - Thermo Fisher MicroAmp™ optical adhesive film (catalog no. 4311971)
- Plate centrifuge

PRECAUTIONS

- For Research Use Only.
- Product does not contain infectious material, but should be handled using aseptic technique as if it is potentially infectious.
- Use universal precautions when handling this product.
- To avoid cross-contamination, use separate pipette tips for all reagents.
- All residual materials must be treated as potentially hazardous and disposed of accordingly. This must be carried out according to the established procedures of the laboratory and in accordance with national and international regulations.
- Do not pipette by mouth.
- Do not eat, drink, or smoke when handling this product or within laboratory spaces.

RECOMMENDED STORAGE

The lyophilized BioGX Far Red Dye Calibration Kit is shipped at ambient temperature, but is recommended to be stored long-term at 2-8 °C prior to dye rehydration. Once rehydrated, protect from light. Rehydrated dye mix is not suitable for long-term storage and should not go through freeze-thaw cycles. The entire rehydrated dye mix should be used for optimal performance. Leftover rehydrated dye mix should be discarded.

BioGX Lyophilized Far Red Dye Calibration Kit is stable when stored in the sealed zip bag at 2-8 °C for up to 6 months from the date of manufacture.

INSTRUCTIONS FOR USE

Each tube of lyophilized BioGX Far Red Dye contains the optimized concentration of Cy®5.5 fluorescent dye to properly add the custom calibration to the instrument fluorophore library. The dye can be rehydrated and diluted to obtain a desired concentration for calibrating the Far Red optical channel.

Use of BioGX Rehydration Water (Part number: 800-0035-12) is recommended for lyophilized Far Red Dye rehydration.

[Instructions for use on Applied Biosystems QuantStudio™ 5 Real-Time PCR Instrument, 96-well, 0.2-mL block](#)

Step 1: Creating a custom dye plate

- a. For calibrating a 96-well block, 1 tube of lyophilized BioGX Far Red Dye is needed.
- b. Add 2 mL of molecular grade water to each tube containing lyophilized BioGX Far Red Dye.
- c. Close the tube lid and vortex the rehydrated BioGX Far Red Dye for 5-10 seconds to fully resuspend the lyophilized Far Red Dye and centrifuge briefly to settle the liquid.
- d. Incubate the rehydrated BioGX Far Red Dye at room temperature for a minimum of 2 minutes protected from light.
- e. Aliquot 20 µl of the rehydrated Far Red Dye to each well of a 96-well plate.
- f. Seal the plate using an optical adhesive film.
- g. Briefly centrifuge the plate for 2 minutes at 750-1,000 x g.
- h. Verify that the liquid is at the bottom of each well of the plate and free of bubbles. If it is not, centrifuge the plate again.

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Step 2: Adding the custom dye to the instrument software and performing a custom dye calibration

- a. In the home screen of the instrument's touchscreen, click "Settings" > "Maintenance and Service" > "Calibrations" > "Custom" > "Custom Dye".
- b. Click "Add Custom Dye". Enter the following dye information:
 - o Custom Dye Name: CY5.5
 - o Type: Select "Reporter"
- c. Click "Save".
- d. Load the appropriate prepared dye plate into the plate adapter.
- e. Enter the calibration temperature to 60°C.
- f. Click "Start" to start the dye calibration.
- g. When the run is complete and the screen displays "Calibration Complete", click "View Results" > "Details".
- h. Review the calibration result. Pass criteria - Signals from each well follow a uniform trend, and the dye signal peaks at the filter set X6-m6.
- i. If the calibration passed, click "Accept Results".
- j. Unload the plate from the instrument.
- k. If the calibration failed, repeat the calibration step starting at Step 1 described above and consult the QuantStudio™ 5 Real-Time PCR Systems manual¹ for troubleshooting calibration failures .






Instructions for use on real-time PCR instruments other than Applied Biosystems™ QuantStudio™ 5 Real-Time PCR Instrument, 96-well, 0.2-mL block

Contact the PCR instrument manufacturer for optimum Cy®5.5 dye concentration for calibration and calibration procedures.

REFERENCES

- 1.) QuantStudio 3 and 5 Real-Time PCR Systems Installation, Use, and Maintenance Guide (Pub. no. MAN0010407)

SYMBOLS

| | |
|--|-------------------------|
|  | Temperature Limitation |
|  | Keep Dry |
|  | For Research Use Only |
|  | Batch Code / Lot Number |
|  | Manufacture Date |

| Rev. # | Effective Date | Summary of Changes |
|--------|----------------|--------------------|
| 01 | 22 DEC 2021 | Initial Release. |



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