
Ready-to-use Universal qPCR Reference Dye (100×)

Cat. No.: R1511486 | Pack size: 1 mL | Storage: Protected from light, Store at -20°C

Product Introduction

The Ready-to-use Universal qPCR Reference Dye (100×) is a normalization calibration reagent for real-time fluorescent quantitative PCR (qPCR), which eliminates experimental systematic errors via fluorescence signal normalization. This product features a unique long Stokes shift design, making it an ideal alternative to 5-ROX/6-ROX dyes. It enables efficient fluorescence signal normalization across various qPCR instrument platforms. As a ready-to-use premixed formulation, it only needs to be added to the reaction system in proportion for use, delivering a stable baseline without the need for dye concentration adjustment. This simplifies the experimental workflow and improves the accuracy and repeatability of experimental data. The product is applicable for signal normalization and experimental optimization in qPCR and reverse transcription-quantitative PCR (RT-qPCR).

Existing 5-ROX/6-ROX dyes on the market are used for fluorescence signal normalization in real-time fluorescent quantitative PCR. However, differences in the optical design of various instrument platforms necessitate the use of different dye concentrations for different instruments. This product addresses the drawbacks of traditional reference dyes, such as poor instrument compatibility and cumbersome operation, and obviates the need for repeated calibration of thermal cyclers. It provides researchers with a solution for efficient, universal and accurate signal normalization, as well as reliable quantitative results. For in vitro research use only. Not for clinical diagnosis or treatment.

Note: Equivalent in performance to Thermo Fisher ROX Reference Dye.

Application Scope

Reference dye for real-time fluorescent quantitative PCR.

Product Features

1. Exceptional compatibility: No need to distinguish between qPCR instrument types; suitable for all real-time fluorescent quantitative PCR amplification instruments that require or do not require ROX calibration.
2. Highly stable baseline: Delivers a stable baseline for multiplex quantitative PCR and RT-PCR.
3. Reliable fluorescence signal normalization: The unique long Stokes shift design maintains a stable baseline for qPCR and RT-PCR, effectively eliminating systematic errors.

4. Simplified operation: Ready-to-use premixed formulation that only needs to be added to the reaction system in proportion; no additional concentration optimization or repeated parameter debugging required.

Product Specifications

Ex/Em: 578/604 nm.

Product Components

Component	2000 T
A. 100× Ready-to-use Universal qPCR Reference Dye	1 mL

Note: 2000 T refers to the total number of 50 µL reaction systems that can be prepared with the kit.

Precautions

1. Shake well before use and avoid repeated freeze-thaw cycles. It is recommended to aliquot Component A into small tubes upon first use and store at -20 °C.
2. Fluorescent dyes are susceptible to quenching by light exposure; operate in the dark at all times to maintain dye stability.
3. This product is for research use only and must not be stored in ordinary residential premises.
4. For your safety and health, follow the general laboratory safety regulations of your institution.

Instructions for Use

1. Pre-Experiment Preparation

(1) Reagent Preparation

Take Component A (100× Ready-to-use Universal qPCR Reference Dye) from the kit and all reagents related to the qPCR/RT-PCR reaction system out of their storage conditions (e.g., -20 °C or 4 °C), and place them on ice or an ice plate.

Note: Protect from light at all times.

(2) Instrument Preparation

qPCR instrument

2. Operating Procedures

Prepare the Quantitative PCR/RT-PCR Reaction System.

(1) Set up the quantitative PCR/RT-PCR reaction system in accordance with the protocol provided with the PCR reagent kit.

For multiple reactions, prepare a master mix first and ensure thorough mixing.

(2) Add Component A (100× Ready-to-use Universal qPCR Reference Dye): Add 0.5 µL of Component A to each 50 µL PCR reaction system.

(3) Mix and centrifuge: Vortex the PCR reaction system to mix well and then perform a brief centrifugation.

Notes:

(1) The volume of the reference dye can be adjusted according to experimental requirements.

(2) No air bubbles or residual liquid on the tube walls shall be present after brief centrifugation.

(3) Protect from light at all times.

Instrument	50 µL PCR Reaction	Final Concentration
Bio-Rad CFS Series	0	0
Roche Light Cycler Series	0	0
Eppendorf Mastercycler ep realplex Series	0	0
Qiagen/Corbett Rotor-Gene Series	0	0
Takara Thermal Cycler Dice Series	0	0
ABI PRISM 7000/7300/7700/7900HT and 7900HT Fast system, ABI Step One, ABI Step One Plus Series	0.5 µL	1×
ABI 7500/7500 Fast, ViiA7, QuantStudio, Stratagene Mx3000P/3005P/x4000, MJ Research Series	0.5 µL	1×
Chromo4, Opticon (II), Corbett Rotor Gene 3000 Series	0.5 µL	1×

Specifications

Attribute	Value
Synonyms	Ready-to-use Universal qPCR Reference Dye

Attribute	Value
Specifications & Purity	BioReagent,PCR Reagent,ready-to-use,Biological Stain,for fluorescence analysis,sterile,Suitable for molecular biology
Stability And Storage	Store at -20°C long term (36 months). Store in the dark.
Storage Conditions	Protected from light,Store at -20°C
Shipped In	Ice chest + Ice pads This product requires cold chain shipping. Ground and other economy services are not available.

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Whether you have a technical question, need help with a quotation, or want to inquire about an order, our regional teams are ready to assist. Please contact the office for your region; for general inquiries, the North American office is the corporate primary.

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Limitations & Disclaimer

- For Research Use Only (RUO). Not for use in human or animal diagnostics, therapeutics, or in vivo applications. Not for food, cosmetic, or household use.
- This product is not a CE-marked in vitro diagnostic device under IVDR (EU) 2017/746 and is not an FDA-cleared device under 21 CFR. Use is restricted to verified businesses, institutions, and qualified professionals for research and development purposes.
- Where any kit component is classified as hazardous under CLP (EC) 1272/2008 or OSHA HCS (29 CFR 1910.1200), the product Safety Data Sheet (SDS) takes precedence over this document for handling, storage, and disposal information.
- Performance depends on sample type, sample condition, handling, and operator technique. Users are responsible for validating the kit for their specific application.



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Product Instructions
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