

Radiant™ Green Lo-ROX qPCR Kit

| Catalog No. | Pack Size and Concentration | Components (Volume) |
|-------------|-----------------------------|---------------------|
| QS1001 | 100 x 20µl Reactions, 2X | 1 x 1ml |
| QS1005 | 500 x 20µl Reactions, 2X | 5 x 1ml |
| QS1020 | 2000 x 20µl Reactions, 2X | 20 x 1ml |
| QS1100 | 10,000 x 20µl Reactions, 2X | 100 x 1ml |

Description

Alkali Scientific offers Radiant™ qPCR Kits, a high-performance portfolio of 2X ready-to-use real-time PCR reagents designed for best-in-class quantitative PCR. Radiant™ qPCR Kits are engineered for robust real-time PCR with earlier quantification cycle values (Ct), industry-leading sensitivity (increased limit of detection) and exceptional speed (rapid extension rates). The proprietary buffer system allows for highly efficient amplification of GC-rich and AT-rich sequences in addition to dramatic improvements in PCR sensitivity in low-copy assays and PCR conditions conducive to ultra-fast amplification. The Radiant™ Green Lo-ROX qPCR Kit utilizes a proprietary, Green non-inhibitory intercalating dye for robust, fluorescent detection.

- Next-generation PCR buffer formulations for maximum PCR efficiency and reaction speed.
- Novel hot-start chemistry for improved specificity and sensitivity.
- Broad range detection for increased reliability in low-copy assays
- Versatile 2X mixes, suitable for both ultra-fast and standard cycling methods

Instrument Compatibility

The Radiant™ Green Lo-ROX qPCR Kit has been optimized for use optimized for use with intercalating-dye based real-time PCR on qPCR instruments that require a standard, low concentration of ROX such as Applied Biosystems® 7500, 7500 FAST, ViiA7 and Stratagene (Agilent)® Mx4000, Mx3000P, Mx3005P. In addition, the Radiant™ Green Lo-ROX qPCR Kit is optimal for use on qPCR instruments that do not require the use of ROX for data normalization such as Bio-Rad Opticon™, Opticon2™, MiniOpticon, Chromo4™, CFX96, CFX384, Roche LightCycler®480, Qiagen Rotor-Gene™ 3000 & 6000, Eppendorf Mastercycler®ep realplex, Cepheid SmartCycler™, and Illumina® Eco™.

Components

Radiant™ Green 2X qPCR Mix Lo-ROX is comprised of novel hot-start *Taq* DNA polymerase, proprietary real-time PCR buffer and Green intercalating dye, optimized MgCl₂, dNTPs, ROX reference dye, enhancers, and stabilizers.

Storage

Radiant™ Green Lo-ROX qPCR Kit is shipped on blue or dry ice and should be stored at –20°C upon receipt. Excessive freeze/thawing should be avoided. When stored as specified, Radiant™ Green Lo-ROX qPCR Kit is stable for 12 months from date of receipt. The Kit may also be stored at 4°C for 1 month.

Important Considerations

- Use primer-design software, such as Primer3 (<http://frodo.wi.mit.edu/primer3/>) or visual OMP™ (<http://dnasoftware.com/>). Primers should have a melting temperature (T_m) of approximately 60°C.
- Optimal amplicon length should be 80bp-200bp, and should not exceed 400bp.

Reaction setup

1. Before starting, briefly vortex Radiant™ Green 2X qPCR Mix Lo-ROX.
2. Prepare a PCR master mix based on following table:

| Component | Volume / Reaction | Final Concentration |
|-----------------------------------|---------------------------|---------------------|
| Radiant™ Green 2X qPCR Mix Lo-ROX | 10 µl | 1X |
| Forward Primer (10µM) | 0.8 µl | 400 nM |
| Reverse Primer (10µM) | 0.8 µl | 400 nM |
| Template DNA | <100ng cDNA, <1µg genomic | Variable |
| Nuclease-free water | Variable | |
| Total Reaction Volume* | 20 µl | |

* For alternative total reaction volumes (eg. 25 µl), scale all components proportionally and maintain final concentrations.

3. Program the instrument using the following conditions, acquiring data on the appropriate channel:

| Cycles | Temperature & Time | Notes |
|--------|--|--|
| 1 | 95°C, 2 min. activation for cDNA | 3 minutes for genomic DNA |
| 40 | a. 95°C, 5 sec (Denaturation) b. 60°C to 65°C, 20 to 30 seconds (Annealing/Extension) | Do not exceed 30 seconds and do not use temps below 60°C |

Quality Control

Radiant™ Green Lo-ROX qPCR Kit is tested extensively for robust activity, processivity, efficiency, heat activation, sensitivity, absence of nuclease contamination and absence of nucleic acid contamination. Radiant™ Green Lo-ROX qPCR Kit is manufactured under a comprehensive quality management system, following ISO 9001:2008 standards.

Limitations of Use

This product is intended for research purposes only and is not intended for any animal or human therapeutic use.

Technical Support

For Trouble-shooting and Technical Guidance, please contact us at tech@alkalisci.com and provide PCR reaction conditions, cycling parameters, amplicon size, and screen grabs (amplification traces) if possible.

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