RADIANT
MOLECULAR TOOLS

Radiant™ Green Fluorescein qPCR Kit

Catalog No.	Pack Size and Concentration	Components (Volume)
QS3001	100 x 20µl Reactions, 2X	1 x 1mL
QS3005	500 x 20µl Reactions, 2X	5 x 1mL
QS3020	2000 x 20µl Reactions, 2X	20 x 1mL
QS3100	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 Fluoresciein qPCR Kit utilizes a proprietary, Green non-inhibitory intercalating dye for robust, fluorescent detection in combination with fluorescein for optional use with certain qPCR instruments.

- 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 Fluorescein qPCR Kit has been optimized for use with intercalating-dye based real-time PCR. Each of these instruments has the capacity to analyze qPCR data with the passive reference signal either on or off.

Manufacturer	Model
Bio-Rad®	iCycler® , MyiQ™, iQ®5

Components

Radiant™ Green 2X qPCR Mix with Fluorescein is comprised of novel hot-start *Taq* DNA polymerase, proprietary real-time PCR buffer, Green intercalating Dye and Fluorescein, optimized $MgCl_2$, dNTPs, enhancers, and stabilizers.

Storage

Radiant™ Green Fluorescein 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 Fluorescein 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 (Tm) 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 with Fluorescein.
2. Prepare a PCR master mix based on following table:

Component	Volume / Reaction	Final Concentration
Radiant™ Green 2X qPCR Mix with Fluorescein	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	95ºC, 2 min. activation for cDNA	3 minutes for genomic DNA
40	**a**. 95ºC, 5 sec (Denaturation) **b**. 60ºC to 65ºC, 20 to 30 seconds (Annealing/Extension)	Do not exceed 30 seconds and do not use temps below 60ºC

Quality Control

Radiant™ Green Fluorescein 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 Fluorescein 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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