vivantis

DYE PRODUCT

Product Datasheet

Viva qGreen II Fluorescent Dye 20X in Water

(equivalent to EvaGreen® Dye)

Product No : SD1103
Quantity : 1ml/pack

Lot :
Expiry Date :
Concentration : 20X

Shipped at ambient temperature
Store at 2-8°C or -20°C

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DESCRIPTION

Viva qGreen II Fluorescent Dye (equivalent to EvaGreen® Dye) is one of the most sensitive dyes to detect double stranded DNA in quantitative real-time PCR (qPCR) experiments as well as high-resolution DNA melt curve analysis, yielding robust and reproducible results.

Viva qGreen II Fluorescent Dye has excitation and emission spectra very close to those of fluorescein (FAM), making the Viva qGreen II Fluorescent dye compatible with instruments equipped with 488nm argon laser or any visible light excitation with wavelength in the region. The PCR reaction can be monitored using FAM channel on PCR cycler.

Viva qGreen II Fluorescent Dye is generally less inhibitory toward PCR and is less likely to cause nonspecific amplification compared to Viva qGreen I Fluorescent Dye (equivalent to SYBR® Green Dye). Besides, Viva qGreen II Fluorescent Dye can be used at higher concentration, resulting in more robust PCR signal. The higher concentration of Viva qGreen II Fluerescent Dye permitted qPCR eliminates "dye redistribution" problems. The "dye redistribution" problem which normally occur with Viva qGreen I Fluorescent Dye during post-PCR DNA melt curve analysis make Viva qGreen I Fluorescent dye unreliable for DNA melt curve analysis.

The high quantum yield, excellent stability and sensitivity as well as lowest inhibition toward PCR make the Viva qGreen II Fluorescent Dye the ideal fluorephore in real-time PCR applications and ideal for use in a range of applications.

APPLICATIONS

- Real-time PCR experiments
- Melt curve analysis
- Real-time monitoring of thermophilic helicase-dependent amplification (tHDA)
- Routine solution DNA quantification
- Mass screening

FEATURES

Safer

The dye is noncytotoxic & nonmutagenic for safe handling and easy disposal down to drain, completely impermeable to cell membrane.

Higher sensitivity

Low PCR inhibitory and high concentration of dye used for maximal signal and high resolution DNA melt analysis.

Extremely stable

Stable during storage and under PCR condition. No dye decomposition in PCR buffer at 95-100°C for 48 hours. Highly stable under alkaline or acidic condition and able to withstand repeated freeze-thaw cycles.

Versatile applications

Used as a general double stranded DNA binding dye for DNA quantification, melt curve analysis and more.

Compatible with most system

Compatible with major brands of qPCR instruments & enzyme systems. Compatible with fast PCR protocol & multiplex PCR.

Excellent for qPCR and isothermal application

Brighter and more sensitive than Viva qGreen I Fluorescent Dye (equivalent to SYBR® Green) for detecting amplification due to novel 'release on demand' DNA binding mechanism.

PROTOCOL

Table 1: Calculate the volumes of reagents required for reaction.

Reagents	Final concentration
Nuclease Free Water	Adjust to final volume (20µl or 50µl)
10X PCR Buffer *without $MgCl_2$	1X
dNTPs Mix	0.2mM
$MgCl_2$	2.5mM
Viva qGreen II Dye	1X
Taq DNA Polymerase	1 – 5U /reaction
Primers	0.1 – 1µM
Template DNA	Variable

*Protocol for non-hot-start *Taq* DNA Polymerase

*Some adjustment of PCR buffer composition might be required if hot-start *Taq* is used. KCl conc. might need to reduce and increase Tris concentration.

1. Prepare 1X master mix, by mixing the components following order sequence as shown in Table 1. Transfer master mix to PCR tubes or plates. Add DNA into tube, suggested 50ng per reaction.
2. Proceed with amplification according to the instrument suggested protocol. Perform real-time PCR on a thermocycling fluorometer and record the fluorescence signal at the annealing or extension step.

Tips:

1. Warm up the 20X solution to room temperature. Dye absorption onto tube wall during storage may occur. Vortex the tube for a few seconds to make sure the dye is fully dissolved.
2. For the detection step, FAM or FAM/SYBR channel should be used.

*When using ABI Sequence Detection Systems, make sure to select 'NONE' for the passive reference under the tab 'WELL INSPECTOR'.

*To run on a Roche LightCycler, BSA with final concentration of 0.5mg/ml may be required.

*Due to Viva qGreen II Fluorescent Dye is less sensitive to proteins, instrument setting for background fluorescence may need to be adjusted, so that the instrument will start.

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