Product Information

Qubit X-Green II dsDNA Quantitation Kit Plus

Catalog Number: Q2038

Product Size: 100T, 500T

Contents:

Component	Product Size		Concentration	Storage
	100T	500T		
Qubit X-Green II (component A)	250 µL	1.25 mL	Soluble in organic solvent	2-6 ℃ Protect from light
Qubit 1× Buffer (component B)	50 mL	250 mL	1× Buffer	2-6 ℃
Qubit dsDNA standard 1 （component C）	1 mL	5 mL	0 ng/µL	2-6 ℃
Qubit dsDNA standard 2 （component D）	1 mL	5 mL	10 ng/µL	2-6 ℃

Storage

Store at 4 °C and protect from light. When stored as directed, product is stable for at least 6 months. For long-term storage, both the 1× Buffer and dsDNA standard can be stored at ≤–20ºC.

Parameters

Ex/Em: 480/520 nm (with dsDNA)

Description

X-Green II is an ultra sensitive fluorescent nucleic acid stain for quantitating double-stranded DNA (dsDNA) in solution. Detecting and quantitating small amounts of DNA is extremely important in a wide variety of biological applications. These include standard molecular biology techniques, such as synthesizing cDNA for library production and purifying DNA fragments for subcloning, as well as diagnostic techniques, such as quantitating DNA amplification products and detecting primers. The most commonly used technique for measuring nucleic acid concentration is the determination of absorbance at 260 nm (A260). The major disadvantages of the absorbance method are the large relative contribution of nucleotides and single-stranded nucleic acids to the signal, the interference caused by contaminants commonly found in nucleic acid preparations, the inability to distinguish between DNA and RNA, and the relative insensitivity of the assay (an A260 of 0.1 corresponds to a 5 µg/mL dsDNA solution). The quantitative detection of X-Green II is simple and convenient, becoming the standard for the detection of residual DNA in biological products.

X-Green II only emits fluorescence when it binds to dsDNA, and the intensity of the fluorescence is proportional to the DNA concentration. X-Green II can detect dsDNA in the range of 10 pg / µL-100 ng / µL with a linear relationship (R^2> 0.99).

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The kit can be used with all Qubit instruments.

Protocol

Preparing the Reagent

The X-Green II dsDNA Quantitation Reagent is stored as a stock solution in organic solvent. In the experiment, prepare a working solution of 1× X-Green II reagent by making a 200-fold dilution of the concentrated solution in Qubit 1× Buffer. Protect the working solution from light by covering it with foil or placing it in the dark, as the X-Green II is susceptible to photodegradation.

For best results, this solution should be used within a few hours of its preparation.

Method

1. Prepare a sufficient amount of 0.5 mL Ep tubes for Qubit instruments.

Note: The Qubit instrument is suitable for Ep tubes that are transparent thin-walled Ep tubes. Do not mark the sides of the Ep tubes to avoid affecting the collection of fluorescence values.

2. DNA standard curve. Prepare two Ep tubes, add 190 µL of the 1 × X-Green II working solution to each tube, and add 10 µL of component C or component D to the two Ep tubes, and vortex for 2-3s Do not generate air bubbles during shaking.

Note: Make sure that the added components C and D are 10 µL and the final volume is 200 µL.

3. Add a certain volume of 1 × X-Green II working solution to the sample to be tested, ensuring that the final volume is 200 µL.

Note: Generally, the volume of the added sample is 1-20 µL, and the corresponding volume of 1 × X-Green II working solution is 199-180 µL.

4. Incubate at room temperature for 2 minutes.

5. Read the data, generate a standard curve, and determine the DNA concentration in the unknown sample.

Notes

1. There are quenching problems with fluorescent dyes. Please avoid light to slow down the fluorescence quenching.

2. For your safety and health, please wear lab coats and disposable gloves.

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