

Product Data Sheet

Product Name: VF dsDNA Green Dye

Cat. No.: GC81418

Chemical Properties

Cas. No.

Formula

M.Wt

Solubility

Storage Store at 4°C, protect from light

General tips For obtaining a higher solubility , please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.

Structure

VF dsDNA Green Dye

Background

VF dsDNA Green Dye is a fluorescent dye for detecting and quantifying double-stranded DNA (dsDNA). VF dsDNA Green Dye fluoresces only when bound to dsDNA, and the fluorescence intensity is proportional to the DNA concentration. VF dsDNA Green Dye does not fluoresce when bound to ssDNA, RNA, or free nucleotides. VF dsDNA Green Dye can detect dsDNA within the range of 25 pg/mL to 1000 ng/mL (Ex/Em = 480/520 nm).

In Vitro, 1. Product Introduction This product is a solution prepared with anhydrous DMSO. For a reaction volume of 200 µL, the 0.1 mL specification can detect 200 samples; the 1 mL specification

Caution: Product has not been fully validated for medical applications. For research use only.

Tel: (909) 407-4943 Fax: (626) 353-8530 E-mail: tech@glpbio.com

Address: 10292 Central Ave. #205, Montclair, CA, USA

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can detect 2,000 samples. 2. Reagent Preparation Dilute the product with 1×TE (10 mM Tris-HCl, 1 mM EDTA, pH 7.5) at a ratio of 1:200. For a detection system with a final volume of 200 µL, if you need to prepare working solutions for 20 samples, add 10 µL of VF dsDNA Green Dye to 1.99 mL of 1×TE. Note: Because the reagent is easily adsorbed onto glass surfaces, it should be prepared in a plastic container. 3. Experimental Method 3.1 Preparation of Standard Working Solution Add purified double-stranded DNA preparation (e.g., Calf thymus DNA) to 1 mL of ddH₂O to prepare a 1 mg/mL standard solution. 3.2 Preparation of Dye Working Solution Add 5 µL of VF dsDNA Green Dye solution to 995 µL of TE solution. Note: Dilute VF dsDNA Green Dye 200-fold with 1×TE. Prepare fresh each time and protect from light. 3.3 Standard Solution Dilution 3.3.1 Stock Solution Dilution: Dilute the 1 mg/mL standard solution to 100 ng/mL with TE solution. 3.3.2 Serial Dilution: Add 800 µL (100 ng/mL) of the standard solution to 200 µL of TE solution to obtain a concentration of 80 ng/mL; add 500 µL (80 ng/mL) of the standard solution to 500 µL of TE solution to obtain a concentration of 40 ng/mL; repeat this serial dilution process to prepare 20 ng/mL, 10 ng/mL, 5.0 ng/mL, and 2.5 ng/mL solutions. 3.3.3 Preparation of Standard Curve: Mix 100 µL each of the serially diluted standard solutions and the dye working solution, and incubate at room temperature in the dark for 5 min. The fluorescence value of the sample was detected using a fluorometer with an excitation wavelength of 480 nm and an emission wavelength of 520 nm. A standard curve was prepared by plotting linear regression between the fluorescence intensity corresponding to the concentration (ng/mL) of the standard solution. 3.4 The fluorescence value of the test sample was measured, and the concentration of the test sample was calculated based on the standard curve.

References:

[1]. Moreno LA, et al. Quantification of dsDNA using the Hitachi F-7000 Fluorescence Spectrophotometer and PicoGreen dye. J Vis Exp. 2010 Nov 5;(45):2465.

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