Lumiprobe
Life science solutions

QuDye® dsDNA HS Rapid Kit manual

Contents

EN

QuDye® dsDNA HS Rapid Kit manual

The QuDye® dsDNA HS Rapid Kit is intended for rapid, highly sensitive quantification of double-stranded DNA using fluorescence measurements on a fluorometer (e.g., QuReader 1, QuReader 8, etc.).

The dye working solution included in the kit (QuDye dsDNA HS Working Solution, 1×) is ready to use and does not require any additional dilution.

All supplied reagents are optimized for fluorometer-based measurements.
The measurable DNA concentration range in the original sample is 10 pg/µL to 100 ng/µL.

Kit components

Kit component	Count			
	1A102 100 assays	1B102 100 assays	2A102 500 assays	2B102 500 assays
SB650, QuDye® dsDNA HS Working solution, 1×, 50 mL	1	1	3	3
B9650, Quantitative standard, 0 ng/uL in TE buffer, 1 mL	1	1	—	—
B7650, dsDNA quantitative standard, 10 ng/uL in TE buffer, 1 mL	1	1	—	—
33115, Polypropylene tube (0.5 mL thin-walled transparent), 100 pcs	—	1	—	5
G9650, Quantitative standard, 0 ng/uL in TE buffer, 5 mL	—	—	1	1
G7650, dsDNA quantitative standard, 10 ng/uL in TE buffer, 5 mL	—	—	1	1

Store at 4 °C. Warm up to room temperature before use. Transportation: at room temperature for up to 3 weeks.

Shelf life 12 months.

Before You Begin

- All measurements using the QuDye® dsDNA HS Rapid Kit should be performed at room temperature (22–28 °C).
- Before starting, allow all required solutions to equilibrate to room temperature.
- Avoid warming samples; in particular, do not hold tubes containing samples in your hands immediately before fluorometric measurements, as measurement results are temperature-dependent.

Reaction Setup

1. Prepare two plastic tubes for standards and one tube for each test sample. Label only the tube caps.
2. Add 190 µL of ready-to-use working solution (QuDye dsDNA HS Working Solution, 1×) to each standard tube and 10 µL of: **Standard #1** (Quantitative Standard, 0 ng/µL); **Standard #2** (dsDNA Quantitative Standard, 10 ng/µL)
3. Add 180–199 µL of the working solution and 1–20 µL of the sample to each sample tube. The total reaction volume is 200 µL.
4. Mix the tube contents using a vortex mixer (2–3 seconds), then briefly centrifuge to collect the droplets.
5. Select the sample dilution so that the DNA amount in the measurement tube is within 0.2–100 ng.

   Examples: for the sample concentration 10 pg/µL: 20 µL sample + 180 µL working solution (final: 0.2 ng DNA); for the sample concentration 100 ng/µL: 1 µL sample + 199 µL working solution (final: 100 ng DNA).

   Important! Avoid using excessively small sample volumes to minimize pipetting errors.
6. Incubate all tubes (standards and samples) at room temperature (22–28 °C) for 5 minutes.

Fluorescence Measurement

1. Measure fluorescence intensity according to the fluorometer user manual. *Menu items may vary depending on the instrument version.*
2. Use the **dsDNA High Sensitivity** mode on the fluorometer.
3. For new runs or when experimental conditions change, it is recommended to recalibrate the fluorometer using two standards: a Quantitative Standard (0 ng/μL) and a dsDNA Quantitative Standard (10 ng/μL).
4. Measure the first standard, the second standard, and then the experimental samples sequentially.

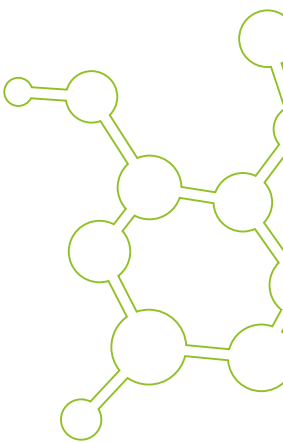
DNA Concentration Calculation

1. In the *Sample* tab, place the tube containing the experimental sample into the fluorometer.
2. Close the lid and press *Read*.
3. After measurement, the instrument displays the QF value. The QF value represents the DNA concentration after dilution of the original sample in the measurement tube.
4. Calculate the original DNA concentration using the formula:

   DNA concentration in the original sample (ng/mL) = QF × 200 / V, where:

   - V is the volume of the original sample (μL) added to the measurement tube,
   - QF is the fluorometer readout (ng/mL).
5. Repeat the procedure for all experimental samples.
6. You may also use the fluorometer's built-in *Dilution Calculator* to determine the DNA concentration in the original sample.

22.09.509-QM
Issued by INSPECT



www.lumiprobe.com