

Instruction Insert

VWR 1X dsDNA Broad Range Quantification Kit

Cat. No. VWRI210-000162.

Product Description

The VWR 1X dsDNA BR Quantification Kit offers a simple, sensitive, and accurate method for dsDNA quantification. It includes a ready-to-use assay reagent and dsDNA standards, ensuring both convenience and reliability. The kit is highly selective for dsDNA and can detect concentrations ranging from 2 to 1000 ng. It provides superior reagent stability, a broad linear dynamic range, and enhanced sensitivity compared to traditional DNA quantification methods.

The assay is performed at room temperature—simply mix 1–20 µL of your sample with the reagent and measure fluorescence using a fluorometer or a fluorescent plate reader. Additionally, the kit exhibits high tolerance to common contaminants, including proteins, salts, solvents, and detergents, ensuring accurate and consistent results.

Contents and Storage:

Material	Amount	Concentration	Storage	Stability
1X dsDNA BR Working Solution (Component A)	20 mL	1X	4 °C Protected From Light	Product Stable for at least 6 months when stored as directed
1X dsDNA BR Standard 1 (Component B)	0.2mL	0 ng/µL in TE Buffer		
1X dsDNA BR Standard 2 (Component C)	0.2 µL	100 ng/µL in TE Buffer		

Critical Assay Parameters:

Incubation Time: For optimal detection of target molecules, incubate the standard or sample with the VWR 1X dsDNA BR Quant Kit reagent for 2–3 minutes in the dark at room temperature.

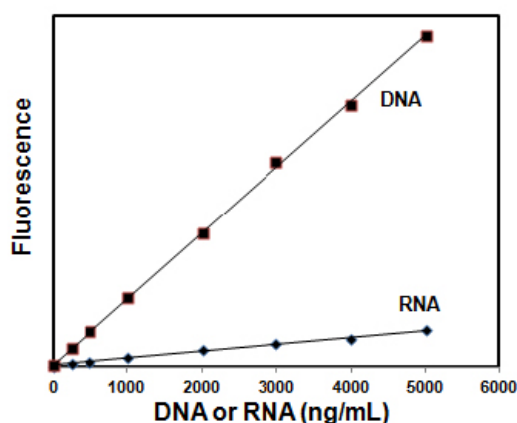
Fluorometer Calibration: Users may use a previous calibration or perform a new one. However, we recommend calibrating the fluorometer before each assay to ensure accuracy and minimize variability.

Assay Temperature: The VWR 1X dsDNA BR Quant Kit is designed for optimal performance at room temperature. Therefore, all reagents must be fully equilibrated to room temperature before use.

Assay Selectivity: The VWR 1X dsDNA BR Quant Kit exhibits strong selectivity for dsDNA (see Figure below).

Effect of Contaminants: The VWR 1X dsDNA BR Quant Kit is highly tolerant to common contaminants, including proteins, salts, solvents, and detergents.

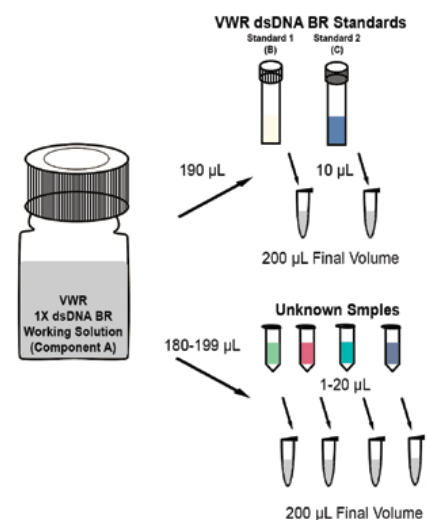
Figure 1: The data represents the sensitivity of VWR 1X dsDNA BR Quantification kit for DNA over RNA



Reagent, Standards and Sample Preparation

This protocol provides instructions on how to use VWR 1X dsDNA BR Quant kit with the VWR and Qubit Fluorometers.

1. Allow all components of the VWR 1X dsDNA BR quantification kit to reach room temperature.
2. Prepare the required number of assay tubes accounting for the two standards (Use only thin-wall, clear 0.5 mL PCR tubes).
3. Label the tubes on the lid.
4. Add 190µL of the VWR 1x dsDNA BR Reagent to each standard tube and 180-199µL to sample tubes dependent on the volume of unknown sample (refer to the diagram on the reverse page).
5. Add 10µL of dsDNA Standard 1 and Standard 2 and unknown samples to corresponding tubes (refer to the diagram on the reverse page).
6. Mix samples by vortexing tubes for 3 seconds and incubate all tubes at room temperature for 1-3 minutes in the dark.



Standards and Sample Measurements

Figure 2: Reagent, Standards and Sample Preparation

Standard Curve:

1. On the VWR Fluorometer Home screen, select **dsDNA**, then choose **dsDNA Broad Range**.
2. Follow the on-screen instructions to insert Standard 1, then select **Read Standard 1**.
3. Once the reading is complete, remove Standard 1, and insert Standard 2. After the reading is complete, remove Standard 2.

Note: On the screen, fluorescence readings for both Standard 1 and Standard 2 will be displayed. Select Chart to view a standard curve that plots Relative Fluorescence Units (RFU) as a function of concentration (µg/mL).

Sample Quantification:

1. On the Fluorometer screen, select **Read Tube**, then choose the volume of the unknown sample in the test tube and select the appropriate units.
2. Select **Start Experiment**.
3. Once the fluorometer completes the quantification, the sample concentration will be displayed on the screen.
4. Remove the sample, insert the next sample into the test chamber, and select **Read Tube**.
5. Repeat Step 4 until all samples have been quantified.

Quantification Kits Available from VWR

Cat No.	Description	Qty
VWRI210-000159.	VWR dsDNA High Sensitivity Quantification Kit	100 Assays
VWRI210-000160.	VWR 1X dsDNA High Sensitivity Quantification Kit, 100 Assays	100 Assays
VWRI 210-000161.	VWR dsDNA Broad Range Quantification Kit, 100 Assays	100 Assays
VWRI 210-000162.	VWR 1X dsDNA Broad Range Quantification Kit, 100 Assays	100 Assays
VWRI 210-000163.	VWR ssDNA Quantification Kit, 100 Assays	100 Assays
VWRI 210-000164.	VWR RNA High Sensitivity Quantification Kit, 100 Assays	100 Assays
VWRI 210-000165.	VWR RNA Broad Range Quantification Kit, 100 Assays	100 Assays
VWRI 210-000166.	Fluorometer Tubes, 0.5 mL Pack of 250	250 tubes

VWR Fluorometer Instrument

Cat No.	Description
VWRI 210-000157.	VWR Fluorometer 115-230V