

Instruction Insert

VWR dsDNA Broad Range Quantification Kit

Cat. No. VWRI210-000161.

Product Description

The VWR dsDNA Broad Range (BR) Quantification kit makes DNA quantification easy and accurate. This assay kit is highly sensitive and selective for dsDNA due to the dye's high quantum yield and large molar extinction coefficient — capable of detecting dsDNA between 2 and 1000 ng. The kit offers advantages in stability, linear dynamic range, and sensitivity over other traditional broad -range dsDNA quantification kits. The assay is performed at room temperature — simply mix reagent with the buffer, add your samples and measure fluorescence using a fluorometer or a fluorescent plate reader (contact us for more details on using this kit with a plate reader). Additionally, the kit is highly tolerant to common contaminants such as proteins, salts, solvents, and detergents, ensuring accurate and consistent results.

Contents and Storage:

Material	Amount	Concentration	Storage	Stability
VWR dsDNA BR Reagents (Component A)	100 µL	200X in DMSO	4 °C Protected From Light	Product Stable for at least 6 months when stored as directed
VWR dsDNA BR Buffer (Component B)	25 mL	1X		
VWR dsDNA Standard #1 (Component C)	100 µL	0 ng/µL in TE Buffer		
VWR dsDNA Standard #2 (Component D)	100 µL	100 ng/µL in TE Buffer		

Critical Assay Parameters:

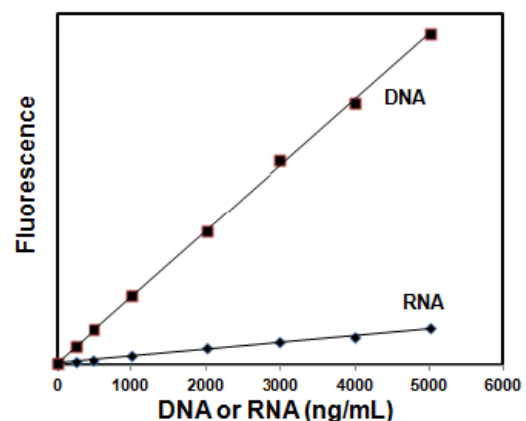
Incubation Time: For optimal detection of target molecules, incubate the standards or samples with the working solution for 2-3 minutes in the dark at room temperature.

Fluorometer Calibration: Users can either use a previous calibration or perform a new calibration. We recommend performing a new calibration for each assay to ensure accuracy.

Assay Temperature: The VWR dsDNA BR Quantification Kit performs optimally at room temperature. Therefore, all reagents must be equilibrated to room temperature before use.

Assay Selectivity: The VWR dsDNA BR Quantification Kit offers strong selectivity for dsDNA over RNA.

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



Reagent, Standards and Sample Preparation

This protocol provides instructions for using the VWR dsDNA BR Quantification Kit with the VWR and Qubit fluorometers.

1. Allow all components of the VWR dsDNA BR Quantification Kit to reach room temperature.
2. Prepare the required number of assay tubes, accounting for the two standards (Use ONLY 0.5 mL thin-wall PCR tubes).
3. Label the sample and standard tubes on the lid.
4. Prepare the working solution immediately before use by diluting the VWR dsDNA BR Reagent 1:200 in 1X VWR dsDNA BR Buffer. For example, for eight samples plus two standards, dilute 10 μL of VWR dsDNA BR Reagent in 1,990 μL of VWR dsDNA BR Buffer.
5. Add working solution to the standard and sample tubes according to the figure on the reverse side. Add 10 μL of Standard 1 and Standard 2 to the appropriately labeled tubes according to the figure on the reverse side.
6. Add 1–50 μL of unknown samples to the appropriately labeled tubes for the final volume of 200 μL (refer to the diagram on reverse side).
7. Thoroughly mix the samples and standards, then incubate the tubes at room temperature in the dark for 2–3 minutes.

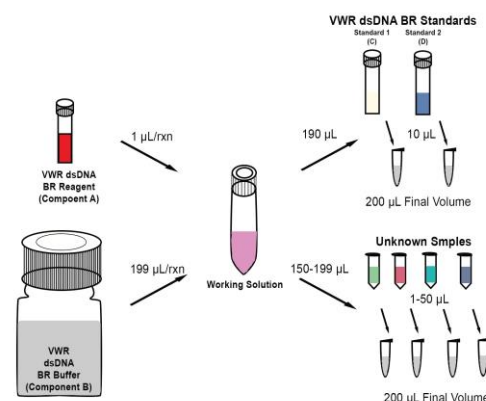


Figure 2: Reagents, Standards and Sample Preparation

Standards and Sample Measurements

Standard Curve:

1. On the VWR Fluorometer Home screen, select **dsDNA**, then choose **DNA 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 ($\mu\text{g}/\text{mL}$).

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
VWRI210-000161.	VWR dsDNA Broad Range Quantification Kit, 100 Assays	100 Assays
VWRI210-000162.	VWR 1X dsDNA Broad Range Quantification Kit, 100 Assays	100 Assays
VWRI210-000163.	VWR ssDNA Quantification Kit, 100 Assays	100 Assays
VWRI210-000164.	VWR RNA High Sensitivity Quantification Kit, 100 Assays	100 Assays
VWRI210-000165.	VWR RNA Broad Range Quantification Kit, 100 Assays	100 Assays
VWRI210-000166.	Fluorometer Tubes, 0.5 mL Pack of 250	250 tubes

VWR Fluorometer Instrument

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