

Instruction Insert

VWR dsDNA High Sensitivity Quantification Kit

Cat. No. VWRI210-000159.

Product Description

The VWR dsDNA High Sensitivity Quantification Kit enables easy and accurate DNA quantification. This highly sensitive assay is selective for dsDNA due to the fluorescent dye's high quantum yield and large molar extinction coefficient. As a result, the dsDNA HS Quantification Kit provides a reliable method for detecting dsDNA within a range of 0.2 to 100 ng. The kit offers superior stability, a broad linear dynamic range, and enhanced sensitivity compared to traditional dsDNA quantification methods. It is compatible with both the VWR and Qubit fluorometers, as well as fluorescent plate readers. For more details on plate reader compatibility, please contact us.

Contents and Storage:

Material	Amount	Concentration	Storage	Stability
VWR dsDNA HS 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 HS 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	10 ng/µL in TE Buffer		

Critical Assay Parameters:

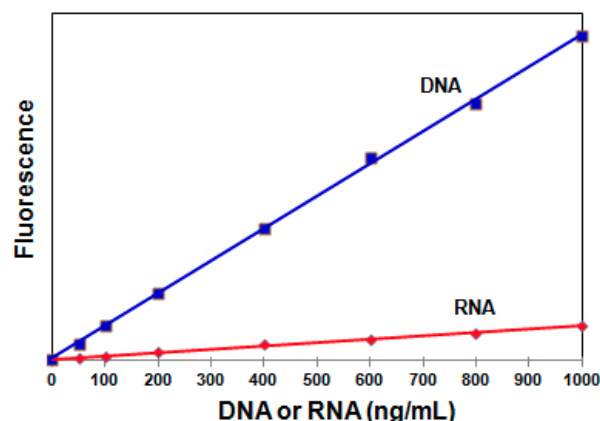
Incubation Time: For optimal detection of target molecules, incubate the standards or samples with the working solution for 2–3 minutes in the dark at room temperature.

Fluorometer Calibration: Users 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 dsDNA HS Quantification 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 dsDNA HS Kit exhibits strong selectivity for dsDNA over RNA, ensuring accurate quantification of double-stranded DNA.

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



Reagent, Standards and Sample Preparation

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

1. Allow all components of the VWR dsDNA HS Quantification Kit to reach room temperature.
2. Prepare the required number of assay tubes, ensuring inclusion of 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 HS Reagent 1:200 in 1X VWR DNA HS Buffer. For example, for eight samples plus two standards, dilute 10 μ L of VWR DS-DNA HS Reagent in 1,990 μ L of VWR DS-DNA HS Buffer.
5. Add working solution to the standard and sample tubes according to the figure on the reverse side. Add 10 μ L of Standard 1 and Standard 2 to the appropriately labeled tubes according to the figure on the reverse side.
6. Add 1–50 μ L of unknown samples to the appropriately labeled tubes for the final volume of 200 μ L (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.

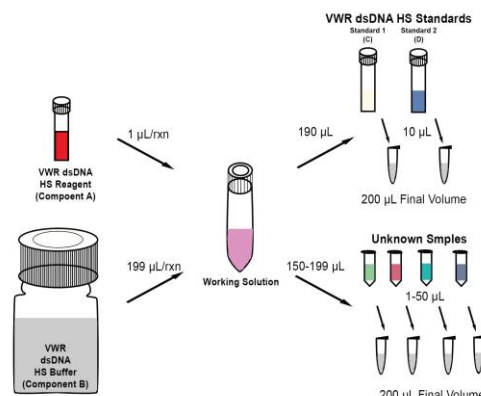


Figure 2: Reagents, Standards and Sample Preparation

Standards and Sample Measurements

Standard Curve:

1. On the VWR Fluorometer Home screen, select **dsDNA**, then choose **DNA High Sensitivity**.
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 (μ g/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
VWRI210-000157.	VWR Fluorometer 115-230V