Accuris RNA BR Quantification Kit

Product Description

The Accuris RNA Broad Range (BR) Quantification Kit provides a simple, accurate, and highly selective method for RNA quantification. Designed for specificity to RNA over single-stranded (ssDNA) and double-stranded DNA (dsDNA) (see figure below), the kit enables reliable detection of RNA concentrations ranging from 1 ng/µL to 1000 ng/µL. This kit offers superior stability and sensitivity compared to other broad-range RNA quantification kits. Additionally, it is highly tolerant to common contaminants, including proteins, free nucleotides, salts, solvents, and detergents, ensuring consistent and accurate results.
The assay is performed at room temperature. Simply dilute the BR RNA reagent in the RNA BR buffer, add samples and standards, and measure RNA concentration using a fluorometer or fluorescent plate reader. (For additional details on compatibility with fluorescent plate readers, please contact us.)

Contents and Storage

Material	Amount	Concentration	Storage	Stability
Accuris RNA BR Reagent (Component A)	100 µL	200X in DMSO	4 ºC Protected From Light	Product Stable for at least 6 months when stored as directed
Accuris RNA BR Buffer (Component B)	20 mL	1X		
Accuris RNA Standard #1 (Component C)	100 µL	0 ng/µL in TE Buffer		
Accuris RNA Standard #2 (Component D)	100 µL	100 ng/µL in TE Buffer		

Critical Assay Parameters

Incubation Time: For optimal RNA detection, incubate samples and standards with the working solution for 2–3 minutes in the dark at room temperature.
Fluorometer Calibration: Users may either use a previous calibration or perform a new calibration. To ensure the highest accuracy and minimize deviations, we recommend running a new calibration for each assay.
Assay Temperature: The Accuris RNA HS Quantification Kit is designed for optimal performance at room temperature. All reagents must be fully equilibrated to room temperature before use.
RNase-Free Setting: Since RNA is inherently unstable, all work involving RNA, including RNA HS quantification, should be conducted in an RNase-free environment to prevent degradation.
Effect of Contaminants: The Accuris ssDNA Quantification Kit exhibits high tolerance to common contaminants, including proteins, salts, solvents, and detergents, ensuring reliable and consistent quantification.

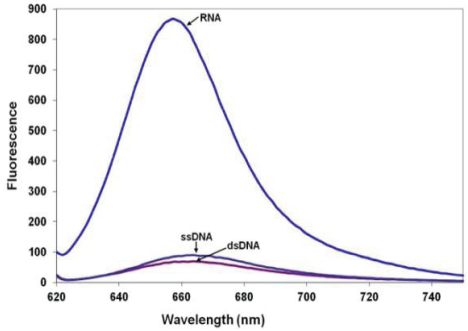


Figure: Accuris RNA BR Quantification kit selectivity for RNA over ssDNA and dsDNA.

Standards and Sample Preparation

This protocol provides instructions on how to use the Accuris ssDNA Quantification Kit with the Accuris Smart Q and Qubit fluorometers.

1. Allow all components of the Accuris RNA HS 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 by diluting the Accuris RNA HS reagent 1:200 in 1X Accuris RNA HS Buffer, immediately before use. For example, for eight samples plus two standards, dilute 10 µL of Accuris RNA HS Reagent in 1,990 µL of Accuris ssDNA Buffer.
5. Add 10 µL of Standard #1 and Standard #2 to the appropriately labeled tubes. Add 1-50 µL of unknown samples to the appropriately labeled tubes (according to the diagram on the back of this page).
6. Thoroughly mix the samples and standards, then incubate the tubes at room temperature in the dark for 2-3 minutes.

Standards and Sample Measurements

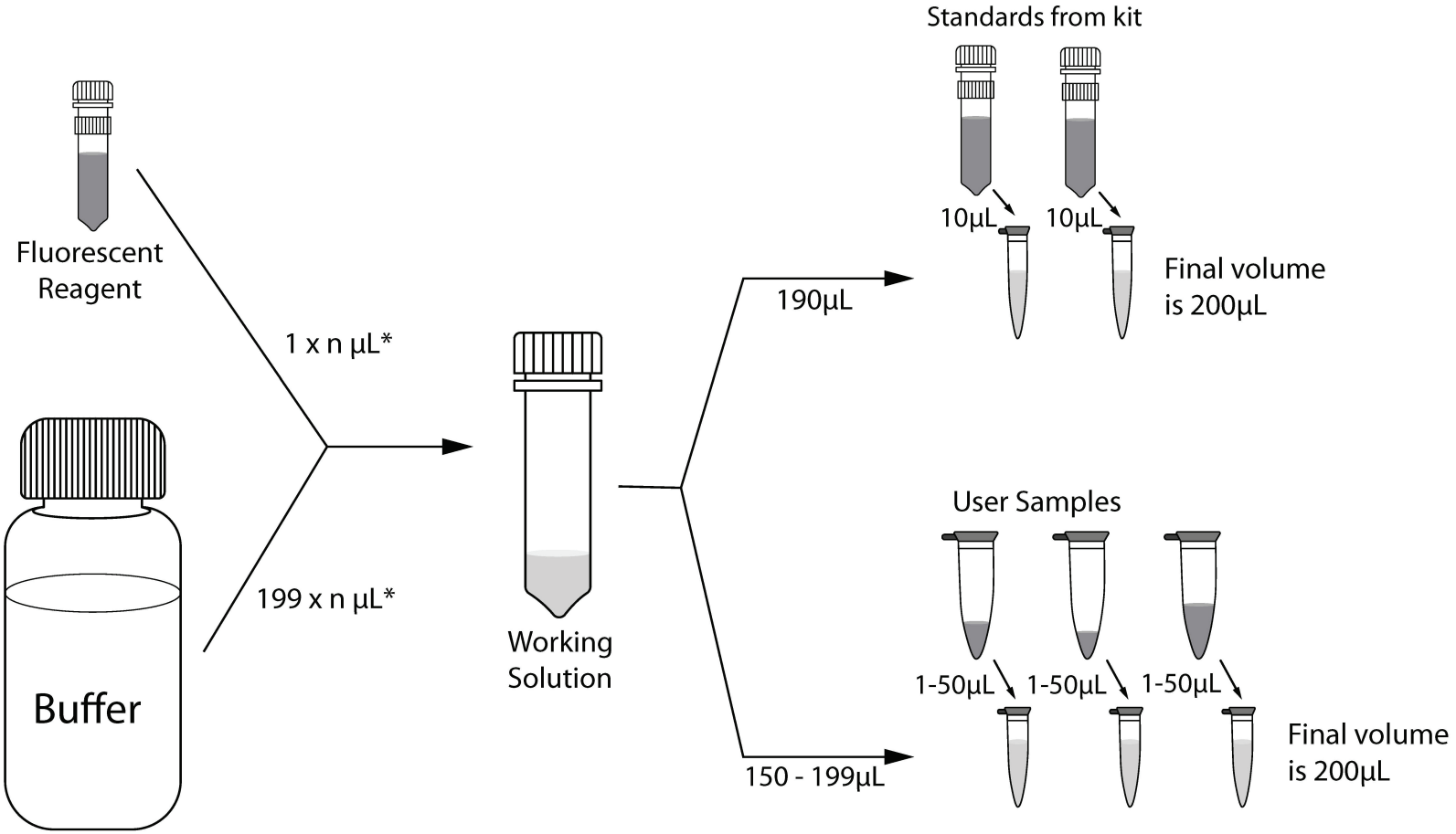
Standard Curve:

1. On the Home screen, select **RNA**, then choose **RNA:Broad Range**.
2. Insert standard 1 into a reading chamber and select start symbol followed by pressing the read symbol.
3. After selecting concentration units, choose calibrate followed by Read Standards.
4. Replace standard tube 1 with standard 2 and select Read standards to obtain reading for the second standard.
4. Select Save to save the standard curve. Note: this curve may be re-used for subsequent sample readings. We recommend to prepare new standard curve each time assay is performed.

Sample Quantification:

1. On the fluorometer screen, enter the volume of the unknown sample, then select the Start icon.
2. Once the fluorometer completes the quantification, the sample concentration and Relative Fluorescence Units (RFU) will be displayed on the screen.
3. Remove the sample, insert the next sample into the test chamber, and select the Start icon.
4. Repeat Step 3 until all samples have been quantified. Note: At any point during quantification, the fluorometer screen can be swiped left to display all recorded concentrations from the current experiment, with options to print or export the results. Selecting the Calculator function allows users to calculate the molarity of the sample (note: the RNA length must be entered for accurate quantification).
5. After completing the quantification process, turn off the fluorometer.

Additional Kits Available from Accuris	
F1000-HS-100	Accuris dsDNA High Sensitivity Quantification Kit, 100 Assays
F1000-HS1-100	Accuris 1X dsDNA High Sensitivity Quantification Kit, 100 Assays
F1000-BR-100	Accuris dsDNA Broad Range Quantification Kit, 100 Assays
F1000-BR1-100	Accuris 1X dsDNA Broad Range Quantification Kit, 100 Assays
F1000-SD-100	Accuris ssDNA Quantification Kit, 100 Assays
F1000-RHS-100	Accuris RNA High Sensitivity Quantification Kit, 100 Assays
F1000-RBR-100	Accuris RNA Broad Range Quantification Kit, 100 Assays



ACCURIS™ LIFE SCIENCE REAGENTS

RNA Broad Range Quantification Kit, 100 Assays.

Cat#: F1000-RBR-100

For Research Use Only

Store at 4 °C upon arrival.