Accuris ssDNA Quantification Kit

Product Description

The Accuris ssDNA Quantification Kit provides an easy and accurate method for the quantification of single-stranded DNA (ssDNA) or oligonucleotides. The assay can detect ssDNA concentrations between 1 and 200 ng. This kit offers advantages in stability, linear dynamic range, and sensitivity over other traditional ssDNA quantification kits. Although the Accuris ssDNA Quantification Kit is not specifically selective for ssDNA over double-stranded DNA or RNA, it is selective for short oligonucleotides. Furthermore, low concentrations of contaminants such as proteins, salts, solvents, and detergents do not interfere with assay sensitivity and accuracy. The Accuris ssDNA Quantification Kit contains reagent, dilution buffer, and two ssDNA standards. The assay is performed at room temperature — simply prepare the standards and samples, then read on a fluorometer to determine the concentration of your unknown ssDNA samples.

Contents and Storage

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

Critical Assay Parameters

Incubation Time: For optimal detection of ssDNA, incubate the samples and standards with the working solution for 2-3 minutes in the dark at room temperature.
Fluorometer Calibration: Users can either use the previous calibration or perform a new calibration. We recommend performing a new calibration for each assay to minimize deviations in the results.
Assay Temperature: The Accuris ssDNA Quantification Kit offers optimal performance at room temperature. Therefore, all reagents must be equilibrated to room temperature before use.
Effect of Contaminants: The Accuris ssDNA Quantification Kit is tolerant to common contaminants such as proteins, salts, solvents, nd detergents (see table below).

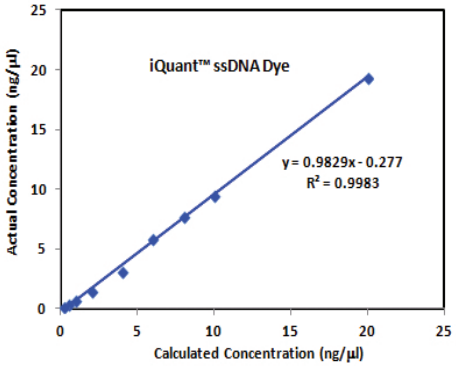


Figure: sensitivity of Accuris ssDNA Quantification kits to ssDNA

Standards and Sample Preparation

Protocol: Using the Accuris ssDNA Quantification Kit with Accuris Smart Q and Qubit Fluorometers

1. Allow all components of the Accuris ssDNA Quantification Kit to reach room temperature.
2. Inspect the Accuris ssDNA reagent for any precipitation. If small precipitates or particles are observed, warm the tube in a water bath until fully dissolved.
3. Prepare the required number of assay tubes, accounting for the two standards. (Use ONLY 0.5 mL thin-wall PCR tubes.)
4. Label the sample and standard tubes on the lids.
5. Prepare the working solution by diluting the Accuris ssDNA reagent 1:200 in 1X Accuris ssDNA Buffer immediately before use. For example, for eight samples plus two standards, dilute 10 µL of Accuris ssDNA Reagent in 1,990 µL of Accuris ssDNA Buffer.
6. Add 10 µL of Standard #1 and Standard #2 to the appropriately labeled tubes (according to the diagram on the back of this page).
7. Thoroughly mix the samples and standards, then incubate the tubes at room temperature in the dark for 2-3 minutes.

Standards and Sample Measurements

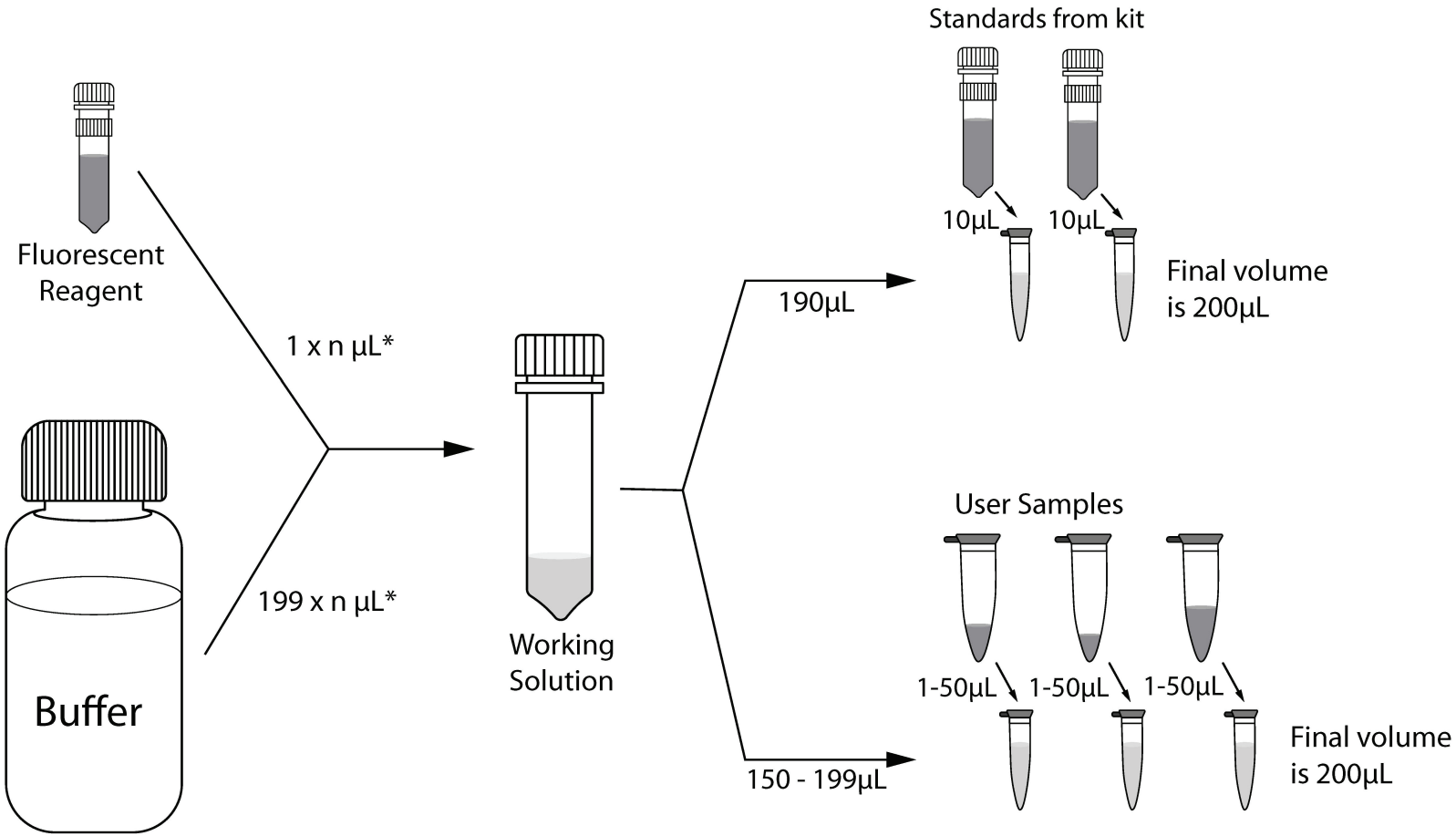
Standard Curve:

1. On the Home screen, select **Oligo**.
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 ssDNA length [length(bp) = lenght of ssDNA (bases)] 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

ssDNA Quantification Kit, 100 Assays.

Cat#: F1000-SD-100

For Research Use Only

Store at 4 °C upon arrival.