Helixyte™ Fluorimetric RNA Quantification Kit *20-1000 ng Broad Range*

Catalog number: 17698
Unit size: 500 Tests

Component	Storage	Amount (Cat No. 17698)
Component A: Helixyte™ Red RNA BR	Freeze (< -15 °C), Minimize light exposure	1 vial (0.25 mL,100X in DMSO)
Component B: RNA Assay Buffer	Refrigerated (2-8 °C)	1 bottle (100 mL)
Component C: RNA Standard	Freeze (< -15 °C)	2 vials (RNA: 2 mg/mL)

OVERVIEW

The Helixyte™ Fluorimetric RNA Quantification Kit offers a sensitive and high-throughput solution for RNA quantification across a wide concentration range of 20 to 1000 ng. This kit utilizes our proprietary RNA-selective fluorescent dye, delivering excellent accuracy and specificity, minimizing interference from non-RNA molecules commonly found in biological samples.

This kit provides reagents sufficient for 500 assays, making it an ideal choice for labs conducting frequent RNA analysis or processing large sample volumes. Compatible with various RNA types, including total RNA and mRNA, Helixyte™ Fluorimetric RNA Quantification Kit simplifies quantification with its ready-to-use format and straightforward protocol. It reduces hands-on time, ensures reproducible results, and supports a wide range of downstream applications such as RT-qPCR, RNA-seq, or cDNA synthesis.

AT A GLANCE

Protocol summary

1. Add Helixyte™ Red RNA BR reagent working solution (200 µL).
2. Add test samples (10 µL).
3. Incubate at room temperature for 5 minutes.
4. Monitor fluorescence intensity at Ex/Em = 643/675 nm.

Important: The following protocol is provided as an example for quantifying total RNA with Helixyte™ Red RNA BR. Warm all the components to room temperature before opening. No data are available for the mutagenicity or toxicity of Helixyte™ Red RNA BR stain. Because this reagent binds to nucleic acids, it should be treated as a potential mutagen and handled with appropriate care. The DMSO stock solution should be handled with particular caution as DMSO is known to facilitate the entry of organic molecules into tissues.

KEY PARAMETERS

Fluorescence microplate reader

Cutoff	665 nm
Emission	675 nm
Excitation	640 nm
Recommended plate	Solid black

PREPARATION OF STANDARD SOLUTIONS

For convenience, use the Serial Dilution Planner:
https://www.aatbio.com/tools/serial-dilution/17698

RNA Standard
Dilute 2 mg/mL RNA standard (Component C) to 100, 80, 60, 40, 20, 10, 5, 2 ng/uL in RNA Assay Buffer (Component B).

PREPARATION OF WORKING SOLUTION

Add 2.5 µL Helixyte™ Red RNA BR (Component A) into 1 mL of RNA Assay Buffer (Component B) and mix well. Protect the working solution from light by covering it with foil or placing it in the dark.

Note: 1 mL of working solution is enough for 5 tests.

Note: We recommend preparing this solution in a plastic container rather than glass, as the dye may adsorb to glass surfaces. For best results, this solution should be used within a few hours of its preparation.

SAMPLE EXPERIMENTAL PROTOCOL

Table 1. Layout of RNA standards and test samples in a solid black 96-well microplate. RS=RNA Standards (RS1-RS8, 1000 to 20 ng/well); BL=Blank Control; TS=Test Samples.

BL	BL	RS8	RS8
RS1	RS1	TS	TS
RS2	RS2	TS	TS
RS3	RS3		
RS4	RS4		
RS5	RS5		
RS6	RS6		
RS7	RS7		

Table 2. Reagent composition for each well.

Well	Volume	Reagent
RS1-RS8	10 µL	Serial Dilutions (1000 to 20 ng/well)
BL	10 µL	Assay buffer
TS	10 µL	Test Sample

1. Add 200 µL of dye working solution to each well of RNA standard, blank control, and test samples. For a 384-wellplate, add 100 µL of dye working solution into each well instead.
2. Prepare RNA standards (RS), blank controls (BL), and test samples (TS) according to the layout provided in Tables 1 and 2. For a 384-well plate, use 5 µL of RNA standards or test samples per well instead of 10 µL.
3. Incubate the reaction at room temperature for 5 minutes, protected from light.
4. Monitor the fluorescence intensity with a fluorescence plate reader at Ex/Em = 640/675 nm (cut-off at 665 nm).

EXAMPLE DATA ANALYSIS AND FIGURES

We recommend using the Online Linear Regression Calculator which can be found at:

https://www.aatbio.com/tools/linear-logarithmic-semi-log-regression-onlinecalculator/

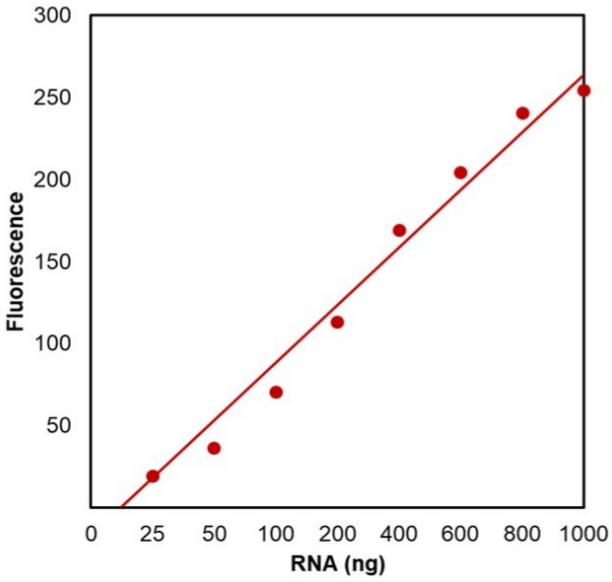

Figure 1. RNA dose response was measured with Helixyte™ Fluorimetric RNA Quantitation Assay Kit *Broad Range* in a 96-well solid black plate.

DISCLAIMER

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