Qubit™ RNA XR Assay Kits

Catalog Numbers Q33223, Q33224

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WARNING! Read the Safety Data Sheets (SDSs) and follow the handling instructions. Wear appropriate protective eyewear, clothing, and gloves. Safety Data Sheets (SDSs) are available from **thermofisher.com/support**.

Product description

The Qubit™ RNA XR (Extended Range) Assay Kits make quantitation of total RNA, rRNA, or large mRNA easy and accurate. The kits include concentrated assay reagent, dilution buffer, and prediluted RNA standards. To perform the assay, dilute the reagent using the buffer provided, add your sample (any volume from 1–20 µL is acceptable), then read the concentration using the Qubit™ Fluorometer (see note below). The assay is highly selective for RNA over doublestranded DNA (dsDNA) (Figure 1, page 8) and is accurate for initial sample concentrations 10 ng/µL to 10,000 ng/µL (based on sample volume), providing a core range of 200 ng–10 µg of RNA in the assay tube. The assay is performed at room temperature, and the signal is stable for 3 hours. Common contaminants such as salts, free nucleotides, solvents, detergents, or protein are well tolerated in the assay (Table 2, page 9).

Note: You can use this Qubit™ assay kit with Qubit™ 4 and Qubit™ Flex Fluorometer models. To use the assay, download and install the appropriate firmware file (.pak) from thermofisher.com/qubit.

Contents and storage

Material	Amount		Concentration	Storage[1]
	Q33223 (100 assays)	Q33224 (500 assays)		
Qubit™ RNA XR Reagent (Component A)	250 µL	1.25 mL	200X in DMSO	<–20°C Desiccated Protect from light
Qubit™ RNA XR Buffer (Component B)	50 mL	225 mL	—	<–20°C or <–4°C
Qubit™ RNA XR Standard #1 (Component C)	1.1 mL	5 mL	0 ng/µL in TE Buffer	<–80°C
Qubit™ RNA XR Standard #2 (Component D)	5 × 220 µL	10 × 500 µL	1000 ng/µL in TE Buffer	

[1] When stored as directed, the kits are stable for at least 6 months from the date of receipt. The Qubit™ RNA Buffer can be stored at <–20°C or <4°C; it is stable at room temperature for ~1 week.

Other Qubit™ assay kits

The Qubit™ RNA XR assay is intended for total RNA, rRNA, or large mRNA. For small RNA (~20 nt or bp), we recommend the Qubit™ microRNA Assay Kit (Cat. Nos. Q32880, Q32881).

In addition to the Qubit™ RNA XR Assay Kits described here, we also offer other kits for assaying RNA, DNA, and protein (Table 2). To determine the "Integrity and Quality" of your RNA sample, use the Qubit™ RNA IQ Assay. To explore DNA contamination of your sample, use the Qubit™ RNA BR Assay Kit together with the Qubit™ dsDNA BR or HS Assay Kit. These measurements give you a much better indication of sample purity than that produced by measuring the A_{260}/A_{280} ratio. To measure protein contamination in nucleic acid samples, run 1–20 µL of the sample in the Qubit™ Protein Assay.

Materials required but not provided

- Sterile or nuclease-free plastic container disposable for mixing the Qubit™ working solution (“Prepare standards and samples” on page 4)
- Nuclease-free pipettors and tips
- Qubit™ Assay Tubes (Cat. No. Q32856)
- Qubit™ Flex Assay Tube Strips (Cat. No. Q33252)

Critical assay parameters

Assay temperature

The Qubit™ RNA XR Assay delivers optimal performance when all solutions are at room temperature (22–28°C). Temperature fluctuations can influence the accuracy of the assay (Figure 4).

To minimize temperature fluctuations, ensure that the Qubit™ RNA XR Buffer is at room temperature before use. Insert all assay tubes into the Qubit™ Fluorometer only for as much time as it takes for the instrument to measure the fluorescence; the Qubit™ Fluorometers can raise the temperature of the assay solution significantly, even over a period of a few minutes. Do not hold the assay tubes in your hand before reading because this warms the solution and results in a low reading.

Incubation time

To allow the Qubit™ RNA XR Assay to reach optimal fluorescence, incubate the tubes for 2 minutes after mixing the sample or the standard with the working solution. After this incubation period, the fluorescence signal is stable for 3 hours at room temperature when the samples are protected from light.

Photostability of Qubit™ reagents

The Qubit™ RNA XR Reagent exhibits high photostability in the Qubit™ Fluorometer, showing <0.3% drop in fluorescence after 9 readings and <1.5% drop in fluorescence after 40 readings. However, if the assay tube remains in the Qubit™ Fluorometer for multiple readings, a temporary reduction in fluorescence will be observed as the solution increases in temperature (Figure 4). Note that the temperature inside the Qubit™ Fluorometer may be as much as 3°C above room temperature after 1 hour. For this reason, if you want to perform multiple readings of a single tube, remove the tube from the instrument and let it equilibrate to room temperature for 30 seconds before taking another reading.

Qubit™ Fluorometer calibration

For each assay, you have the choice to run a new calibration or use the values from the previous calibration. When you first use the instrument, perform a new calibration each time. As you become familiar with the assays, the instrument, your pipetting accuracy, and significant temperature fluctuations within your laboratory, you can decide how comfortable you are using the calibration data stored from the last time the instrument was calibrated. Additionally, remember that the fluorescence signal in the tubes containing standards and samples is stable for no longer than 3 hours. See Figure 5 for an example of the calibration curve used to generate the quantification results.

RNAse-free handling

The calibration standards included in the Qubit™ RNA XR Assay Kit are high-quality RNA standards. The integrity and concentration of these standards is critical to the optimal performance of the Qubit™ RNA XR Assay. As such, we highly recommend treating these standards as you would any other precious RNA. Use appropriate RNase-free handling techniques, including RNase-free gloves, filtered pipette tips, and tubes. Keep the tube lids closed whenever possible; do not touch the pipette to the inside wall of the tube when withdrawing a sample; thaw the RNA standards on ice, and return the RNA standard to the freezer as soon as possible after use. In case of possible RNase contamination of a standard vial, the RNA standards are supplied prealiquoted into multiple vials. If RNase contamination is suspected, we recommend that you discard the vial in question and use a new standard vial.

Handling and disposal

No data are currently available that address the mutagenicity or toxicity of the Qubit™ RNA XR Reagent (Component A). This reagent is known to bind nucleic acid and is provided as a solution in DMSO. Treat the Qubit™ RNA XR Reagent with the same safety precautions as all other potential mutagens and dispose of the dye in accordance with local regulations.

Install the Qubit™ RNA XR firmware

Qubit™ 4 and Qubit™ Flex Fluorometers may require a firmware update to run the Qubit™ RNA XR Assay. For the latest firmware release and updated instructions, please visit thermofisher.com/qubit.

Prepare standards and samples

This protocol assumes that you are preparing standards to calibrate a Qubit™ Fluorometer. If you plan to use the last calibration performed on the instrument (see “Qubit™ Fluorometer calibration” on page 3), you need fewer tubes (Step 1) and less working solution (Step 3). For sample purity determinations, you can use the Qubit™ Fluorometer to calculate the amount of dsDNA and RNA in the same sample; to do this, simply perform each assay for your sample.

1. Set up the required number of assay tubes for standards and samples. The Qubit™ RNA XR Assay requires 2 standards.

   Note: Use thin-wall, clear, 0.5-mL PCR tubes (Cat. No. Q32856) for the Qubit™ 4 and 8 × 200-µL tube strips (Cat. No. Q33252) for the Qubit™ Flex.

2. Label the tube lids.

   Note: Do not label the side of the tube as this could interfere with the sample read. Label the lid of each standard tube correctly. Calibration of the Qubit™ Fluorometer requires the standards to be inserted into the instrument in the right order.

3. Prepare the Qubit™ working solution by diluting the Qubit™ RNA XR Reagent 1:200 in Qubit™ RNA XR Buffer. Use a clean plastic tube each time you prepare Qubit™ working solution. Do not mix the working solution in a glass container.

   Note: The final volume in each tube must be 200 µL. Each standard tube requires 190 µL of Qubit™ working solution, and each sample tube requires anywhere from 180–199 µL. Ensure that you have sufficient Qubit™ working solution to accommodate all standards and samples.

   For example, for 8 samples, prepare enough working solution for the samples and 2 standards: ~200 µL per tube in 10 tubes yields 2 mL of working solution (10 µL of Qubit™ RNA XR Reagent plus 1990 µL of Qubit™ RNA XR Buffer).
   The Qubit™ Fluorometers provide a reagent calculator, which quickly computes the necessary volume of working solution needed.

4. Add 190 µL of Qubit™ working solution to each of the tubes used for standards.

5. Add 10 µL of each Qubit™ standard to the appropriate tube, then vortex for 2–3 seconds to mix. Be careful not to create bubbles.

   Note: Careful pipetting is critical to ensure that exactly 10 µL of each Qubit™ RNA XR Standard is added to 190 µL of Qubit™ working solution.

6. Add Qubit™ working solution to individual assay tubes so that the final volume in each tube after adding sample is 200 µL.

   Note: Your sample can be anywhere from 1–20 µL. Add a corresponding volume of Qubit™ working solution to each assay tube, anywhere from 180–199 µL.

7. Add each sample to the assay tubes containing the correct volume of Qubit™ working solution, then vortex for 2–3 seconds to mix. The final volume in each tube should be 200 µL.

8. Allow all tubes to incubate at room temperature for 2 minutes, then proceed to “Read standards and samples” on page 5. Follow the procedure appropriate for your instrument.

Read standards and samples

Read using a Qubit™ 4 Fluorometer

1. On the **Home** screen of the Qubit™ 4 Fluorometer, press **RNA**, then select **RNA Extended Range** as the assay type. The **Read standards** screen is displayed. Press **Read standards** to proceed.

   Note: If you have already performed a calibration for the selected assay, the instrument prompts you to choose between reading new standards and running samples using the previous calibration. If you want to use the previous calibration, skip to Step 4. Otherwise, continue with Step 2.

2. Insert the tube containing Standard #1 into the sample chamber, close the lid, then press **Read standards**. When the reading is complete (~3 seconds), remove Standard #1.

3. Insert the tube containing Standard #2 into the sample chamber, close the lid, then press **Read standards**. When the reading is complete, remove Standard #2.

   Note: The instrument displays the results on the **Read standards** screen. For information on interpreting the calibration results, refer to the Qubit™ 4 Fluorometer User Guide, available for download at thermofisher.com/qubit.

4. Touch **Run samples**.

5. On the assay screen, select the sample volume and units:

   Touch **+** or **–** on the wheel, or anywhere on the wheel itself, to select the sample volume added to the assay tube (from 1–20 µL).

   From the unit dropdown, select the units for the output sample concentration.

6. Insert a sample tube into the sample chamber, close the lid, then press **Read tube**. When the reading is complete (~3 seconds), remove the sample tube.

   The top value (in large font) is the concentration of the original sample and the bottom value is the dilution concentration. For information on interpreting the sample results, refer to the Qubit™ 4 Fluorometer User Guide.

7. Repeat Step 6 until all samples have been read.

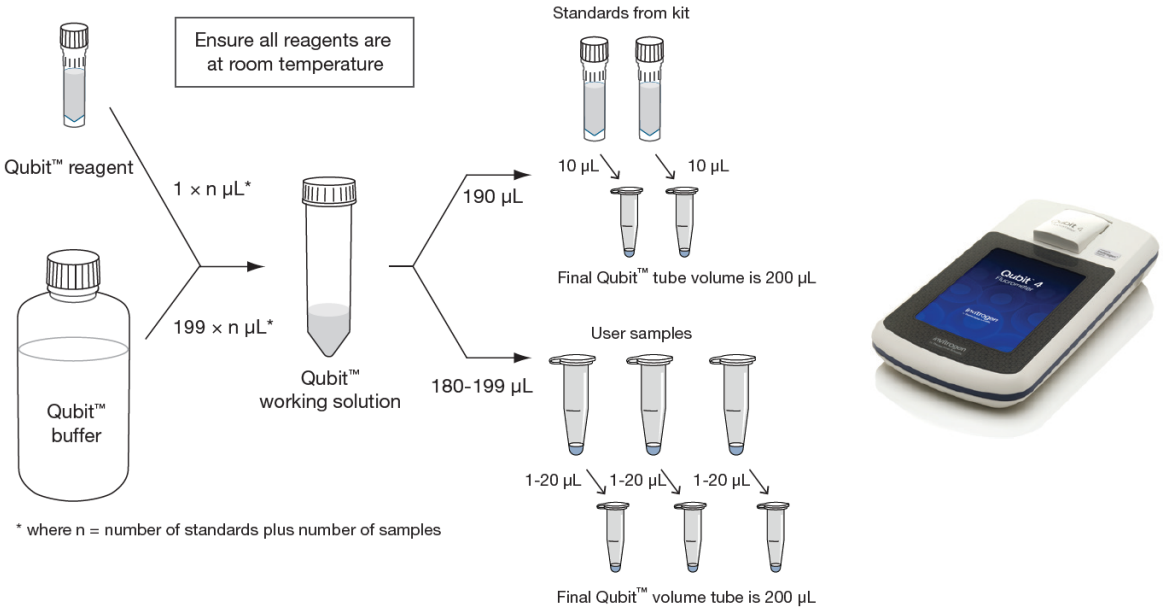

Figure 1 Overview of the Qubit™ RNA XR assay used with a Qubit™ 4 Fluorometer.

Read using a Qubit™ Flex Fluorometer

1. On the **Home** screen of the Qubit™ Flex Fluorometer, press the **RNA Extended Range (XR) assay** icon. The **Read standards** screen is displayed. Press **Read standards & run samples** to proceed.

   Note: If you have already performed a calibration for the selected assay, the instrument prompts you to choose between reading new standards and running samples using the previous calibration. If you want to use the previous calibration, press **Run samples** and skip to step 4. Otherwise, continue with Step 2.

2. Insert the tube strip containing Standard #1 into the sample chamber, close the lid, then press **Run standards**. When the reading is complete (~3 seconds), remove Standard #1.

3. Insert the tube strip containing Standard #2 into the sample chamber, close the lid, then press **Run standards**. When the reading is complete, remove Standard #2.

   The instrument displays graphical results on the **Standards complete** screen. For information on interpreting the calibration results, refer to the Qubit™ Flex Fluorometer User Guide, available for download at thermofisher.com/qubit.

4. Press **Next** from the **Standards complete** screen. When prompted, load the tubes as shown in the **Insert samples** screen. If you have fewer than 8 samples, press to deselect the tube positions that do not contain a sample. Select the units for the output sample concentration, then select **Next**.

   Note: *(Optional)* Select **More Options** to add the assay kit lot #, tags or sample IDs. For information on using these options, refer to the Qubit™ Flex Fluorometer User Guide.

5. In the **Sample volume** screen, enter the sample volume added to the assay tube (between 1 and 20 µL). Enter the volume directly in the **Sample volume** text box, use the **+** and **–** buttons, or adjust the sample volume wheel to select the sample volume added to the assay tube.

   Note: The sample volume used (1–20 µL) changes the assay accuracy range. A different sample volume or assay may be required if the sample concentration is outside of what the assay can accurately quantify.

6. Insert a sample tube strip into the sample chamber, close the lid, then press **Run samples**. When the reading is complete (~3 seconds), remove the sample tube strip.

   Standards and samples are displayed on a graph with the results in a list below. Select the graph icon to only view the results list. The value listed is the concentration of the original sample. For information on interpreting the sample results, refer to the Qubit™ Flex Fluorometer User Guide.

7. Select **Add samples** to read more samples and repeat Step 6.

   Note: *(Optional)* Select **Calculators** to access the **Molarity** and **Normalization** calculators. For information on molarity and normalization calculators, refer to the Qubit™ Flex Fluorometer User Guide.

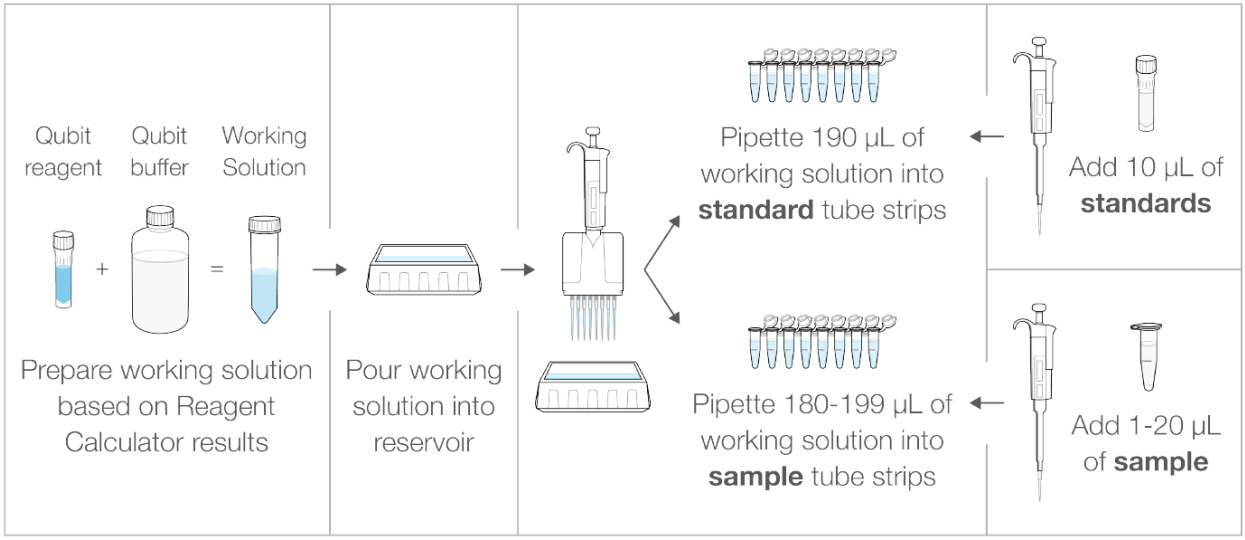

Figure 2 Overview of the Qubit™ RNA XR assay used with a Qubit™ Flex Fluorometer.

Critical assay parameters

Selectivity of the Qubit™ RNA XR Assay

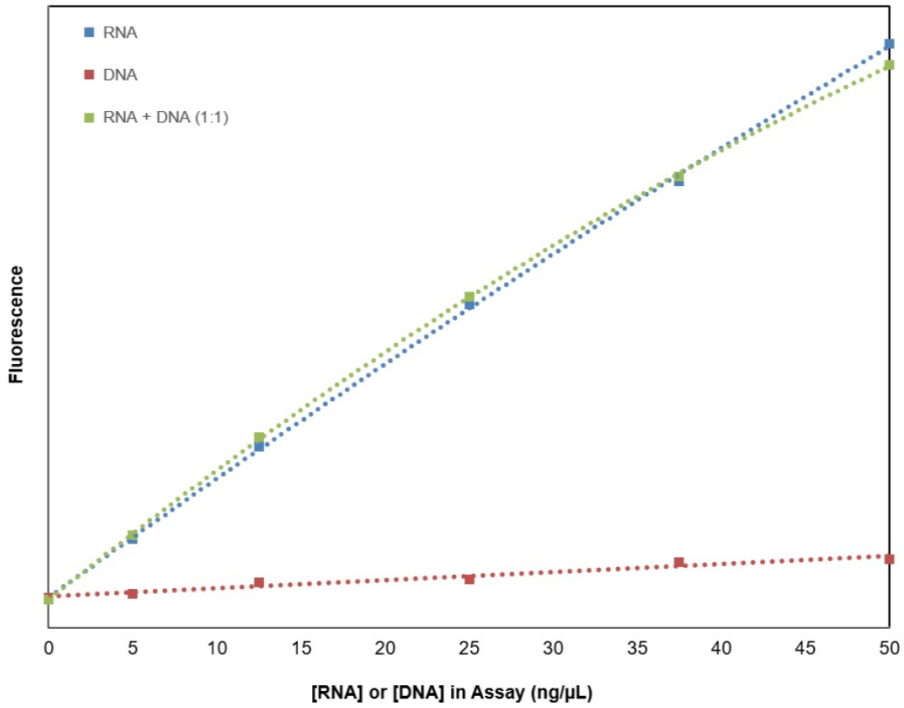

Figure 3 Plot of fluorescence vs. nucleic acid mass for various samples.

Triplicate 10-µL samples of Yeast tRNA (Δ), Calf Thymus DNA (O) or a 1:1 Mixture of RNA and DNA ( ) were assayed using the Qubit™ RNA XR Assay. Fluorescence was measured and plotted versus the mass of nucleic acid for the RNA or DNA alone, or versus the mass of the RNA component in the 1:1 Mixture. The variation (CV) of replicate RNA determinations was <10%.

Effect of temperature on the Qubit™ RNA XR Assay

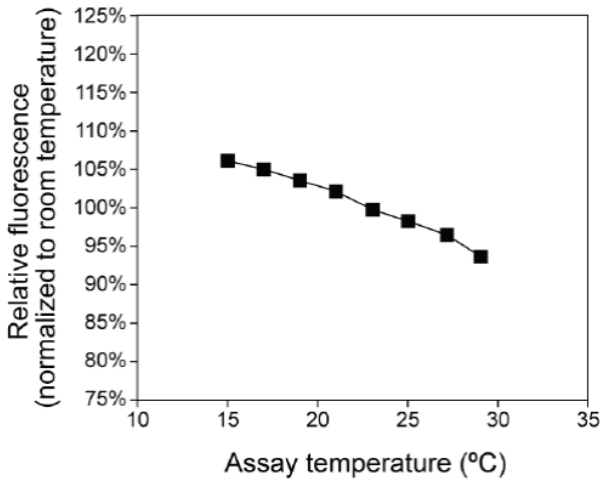

Figure 4 Plot of fluorescence vs. temperature for the Qubit™ RNA XR Assay.

Qubit™ assays are designed to be performed at room temperature, as temperature fluctuations can influence the accuracy of the assay.

How the Qubit™ Fluorometer calculates concentration

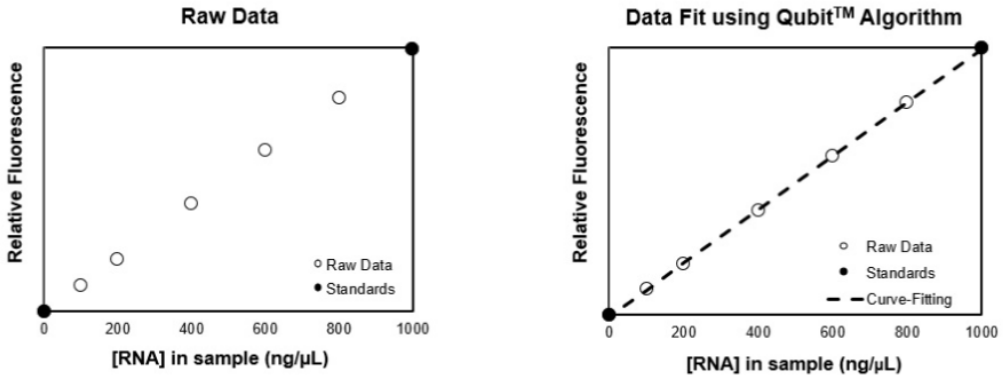

Figure 5 The curve-fitting algorithm used to determine concentration in the Qubit™ RNA XR Assay.

The Qubit™ Fluorometer generates concentration data based on the relationship between the two standards used in the calibration. These plots demonstrate the ability to accurately quantitate the full range using only two calibration standards, using the curve-fitting algorithm (a modified Hill plot) in the Qubit™ RNA XR Assay. On the left is an actual experiment, showing fluorescence values for a range of RNA concentrations in the Qubit™ RNA XR Assay, while on the right the results from the

Qubit™ assay are shown compared to known concentrations after quantitation. For reference, the curve-fitting line is shown against the samples.

Contaminants tolerated by the Qubit™ RNA XR Assay

Table 1 Effect of contaminants in the Qubit™ RNA XR Assay

Contaminant	Final concentration in the assay	Concentration in 20-µL sample	Concentration in 10-µL sample	Result
Sodium chloride	50 mM	500 mM	1 M	OK
Magnesium chloride	1 mM	10 mM	20 mM	OK[1]
Sodium acetate	10 mM	100 mM	200 mM	OK
Ammonium acetate	50 mM	500 mM	1 M	OK
Potassium phosphate	10 mM	100 mM	200 mM	OK
Ethanol	1%	10%	20%	OK
Phenol	0.1%	1%	2%	OK
Chloroform	0.2%	2%	4%	OK
SDS	0.01%	0.1%	0.2%	OK[2]
Triton™ X-100	0.001%	0.01%	0.02%	OK
dNTPs	100 µM	1 mM	2 mM	OK
BSA	20 µg/mL	200 µg/mL	400 µg/mL	OK
IgG	10 µg/mL	100 µg/mL	200 µg/mL	OK
NTPs	1X	1X	1X	OK
ssDNA	1X	1X	1X	OK
dsDNA	1X	1X	1X	OK

[1] At this concentration, some distortion of the standard curve was noted, although results were within 10% of expected values. For higher accuracy, either reduce the level of impurity present or add it at the same concentration to your standard solutions.

[2] At this concentration, some distortion of the standard curve was noted, although results were within 10% of expected values. For higher accuracy, either reduce the level of impurity present or add it at the same concentration to your standard solutions.

Note: RNA standards were assayed in the presence or absence of contaminants at the indicated final concentrations. Equivalent concentrations (approximate) in 10 µL or 1 µL sample volumes are also listed. In all cases, results are given as OK, usually

less than 10% perturbation. For best results, add the same amount of contaminant to the standard samples.

Qubit™ assay kits compatible with the Qubit™ Fluorometer

A number of fluorescence-based quantification kits are available for use with the Qubit™ Fluorometer. Use Table 3 to choose a kit based on the target molecule being measured and the number of assays you require.

Table 2 Qubit™ assay kits for use with the Qubit™ Fluorometer

Product	Cat. No.	No. of assays[1]	Target	Notes
Qubit™ dsDNA BR Assay Kit	Q32850	100	dsDNA	• Core range (high confidence): 0.02 µg/mL to 5 µg/mL[2] • Extended range (moderate confidence): 5 µg/mL to 10 µg/mL[2] • Useful for quantitation of genomic and miniprep DNA samples • Accurate in the presence of RNA, salts, solvents, proteins, and free nucleotides
	Q32853	500		
Qubit™ dsDNA HS Assay Kit	Q32851 Q33230	100	dsDNA	• Core range (high confidence): 1 ng/mL to 500 ng/mL[2] • Extended ranges (moderate confidence): 0.5 ng/mL to 1 ng/mL and 500 ng/mL to 600 ng/mL[2] • Useful for quantitation of PCR products, viral DNA, and samples for subcloning • Accurate in the presence of RNA, salts, solvents, proteins, and free nucleotides
	Q32854 Q33231	500		
Qubit™ ssDNA Assay Kit	Q10212	100	ssDNA	• Core range (high confidence): 5 ng/mL to 1,000 ng/mL[2] • Extended ranges (moderate confidence): 1 ng/mL to 5 ng/mL and 1,000 ng/mL to 1,200 ng/mL[2] • Useful for quantitation of oligos, primers, denatured DNA, PCR products • Accurate in the presence of salts, urea, solvents, proteins, ATP, and agarose

Product	Cat. No.	No. of assays[1]	Target	Notes
Qubit™ RNA HS Assay Kit	Q32852	100	RNA	• Core range (high confidence): 25 ng/mL to 500 ng/mL[2] • Extended ranges (moderate confidence): 20 ng/mL to 25 ng/mL and 500 ng/mL to 1,000 ng/mL[2] • Useful for quantitation of samples for microarray, RT-PCR, and Northern blot procedures • Accurate in the presence of DNA, salts, solvents, proteins, and free nucleotides
	Q32855	500		
Qubit™ RNA BR Assay Kit	Q10210	100	RNA	• Core range (high confidence): 0.1 µg/mL to 5 µg/mL[2] • Extended ranges (moderate con> dence): 0.05 µg/mL to 0.1 µg/mL and 5 µg/mL to 6 µg/mL[2] • Useful for quantitation of samples for microarray, RT-PCR, and Northern blot procedures • Accurate in the presence of DNA, salts, solvents, proteins, and free nucleotides
	Q10211	500		
Qubit™ RNA XR Assay Kit	Q33233	100	RNA	• Core range: 1 ng/µL to 50 ng/µL [2] • Extended range: 0.5 ng/µL to 1 ng/µL and 50 ng/µL to 100 ng/µL[2] • Useful for quantitation of samples for RT-PCR, qRT-PCR or RNA-SEQ • Accurate in the presence of DNA, salts, solvents, proteins, and free nucleotides
	Q33234	500		
Qubit™ microRNA Assay Kit	Q32880	100	RNA	• Core range (high confidence): 5 ng/mL to 500 ng/mL[2] • Extended ranges (moderate confidence): 2.5 ng/mL to 5 ng/mL and 500 ng/mL to 750 ng/mL[2] • Useful for quantification of samples for qRT-PCR and sequencing applications

Product	Cat. No.	No. of assays[1]	Target	Notes
Qubit™ microRNA Assay Kit	Q32881	500	RNA	• Accurate in the presence of rRNA, large mRNA (>1,000 bp), salts, solvents, proteins, and free nucleotides
Qubit™ Protein Assay Kit	Q33211	100	Protein	• Core range (high confidence): 1.25 µg/mL to 25 µg/mL[2] • Extended ranges (moderate confidence): 1 µg/mL to 1.25 µg/mL and 25 µg/mL to 26 µg/mL[2] • Little protein-to-protein difference in signal • Accurate in the presence of DTT, β-mercaptoethanol, amino acids, and DNA • Signal is stable for 3 hours
	Q33212	500		
Qubit™ RNA IQ Assay Kit	Q33221	75	RNA integrity and quality	• Although small in size, the tertiary structure of 5s and tRNA will bind the large RNA dye • Accurate in the presence of salts, protein, solvents and RNA stabilization reagents • Signal is stable for 1 hour • For use with the Qubit™ 4 Fluorometer; the assay does not work on the original Qubit™, Qubit™ 2.0, Qubit™ 3.0, or Qubit™ Flex Fluorometers.
	Q33222	275		

[1] Based on an assay volume of 200 µL.

[2] Concentration ranges refer to the concentration of the sample after dilution in the assay tube.

Related products

Product name	Cat. No.	Unit size
Qubit™ RNA XR Assay Kit, 100 assays	Q33223	1 Kit
Qubit™ RNA XR Assay Kit, 500 assays	Q33224	1 Kit
Qubit™ dsDNA BR Assay Kit, 100 assays, 4–1,000 ng, for use with the Qubit™ Fluorometer	Q32850	1 Kit
Qubit™ dsDNA BR Assay Kit, 500 assays, 4–1,000 ng, for use with the Qubit™ Fluorometer	Q32853	1 Kit
Qubit™ dsDNA HS Assay Kit, 100 assays, 0.2–100 ng, for use with the Qubit™ Fluorometer	Q32851	1 Kit
Qubit™ dsDNA HS Assay Kit, 500 assays, 0.2–100 ng, for use with the Qubit™ Fluorometer	Q32854	1 Kit
Qubit™ 1X dsDNA HS Assay Kit, 100 assays	Q33230	1 Kit
Qubit™ 1X dsDNA HS Assay Kit, 500 assays	Q33231	1 Kit
Qubit™ ssDNA Assay Kit, 100 assays, 1–200 ng, for use with the Qubit™ Fluorometer	Q10212	1 Kit
Qubit™ RNA BR Assay Kit, 100 assays, 20–1,000 ng, for use with the Qubit™ Fluorometer	Q10210	1 Kit
Qubit™ BR Assay Kit, 500 assays, 20–1,000 ng, for use with the Qubit™ Fluorometer	Q10211	1 Kit
Qubit™ RNA HS Assay Kit, 100 assays, 5–100 ng, for use with the Qubit™ Fluorometer	Q32852	1 Kit
Qubit™ RNA HS Assay Kit, 500 assays, 5–100 ng, for use with the Qubit™ Fluorometer	Q32855	1 Kit
Qubit™ RNA IQ Assay Kit, 75 assays, for use with the Qubit™ 4 Fluorometer	Q33221	1 Kit
Qubit™ RNA IQ Assay Kit, 275 assays, for use with the Qubit™ 4 Fluorometer	Q33222	1 Kit
Qubit™ microRNA Assay Kit, 100 assays, 1–100 ng, for use with the Qubit™ Fluorometer	Q32880	1 Kit
Qubit™ microRNA Assay Kit, 500 assays, 1–100 ng, for use with the Qubit™ Fluorometer	Q32881	1 Kit
Qubit™ Protein Assay Kit, 100 assays, 0.25–5 µg, for use with the Qubit™ Fluorometer	Q33211	1 Kit
Qubit™ Protein Assay Kit, 500 assays, 0.25–5 µg, or use with the Qubit™ Fluorometer	Q33212	1 Kit

Product name	Cat. No.	Unit size
Qubit™ 1X dsDNA HS Assay – Lambda DNA Standard	Q33233	1 Kit
Qubit™ 1X dsDNA HS Assay – Calf Thymus DNA Standard	Q33234	5 mL
Qubit™ RNA IQ Assay – RNA Standards	Q33235	5 mL
Qubit™ RNA IQ Assay – RNA Standards	Q33235	1 set
Qubit™ XR Assay – RNA Standard	Q33236	1 set
Qubit™ Assay Tubes, 500 tubes	Q32856	1 set
Qubit™ Flex Assay Tube Strips	Q33252	1 Set

Limited product warranty

Life Technologies Corporation and/or its affiliate(s) warrant their products as set forth in the Life Technologies' General Terms and Conditions of Sale at **www.thermofisher.com/us/en/home/global/terms-and-conditions.html**. If you have any questions, please contact Life Technologies at **www.thermofisher.com/support**.

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  - User guides, manuals, and protocols
  - Certificates of Analysis
  - Safety Data Sheets (SDSs; also known as MSDSs)

    Note: For SDSs for reagents and chemicals from other manufacturers, contact the manufacturer.

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For descriptions of symbols on product labels or product documents, go to **thermofisher.com/symbols-definition**.

The information in this guide is subject to change without notice.

Revision history: Pub. No. MAN0017501

Revision	Date	Description
C.0	14 May 2020	Adding edits and new images/figures.
B.0	04 April 2018	Update assay accuracy and assay range values in Product information.
A.0	07 December 2017	New user guide