



Jun 03, 2022

# Qubit DNA Quantification (Assay)

Allyson Hirsch<sup>1</sup>, George Testo<sup>1</sup><sup>1</sup>The Pathogen & Microbiome Institute, Northern Arizona University

1



protocol .

**George Testo**  
The Pathogen & Microbiome Institute

## DISCLAIMER – FOR INFORMATIONAL PURPOSES ONLY; USE AT YOUR OWN RISK

The protocol content here is for informational purposes only and does not constitute legal, medical, clinical, or safety advice, or otherwise; content added to [protocols.io](https://protocols.io) is not peer reviewed and may not have undergone a formal approval of any kind. Information presented in this protocol should not substitute for independent professional judgment, advice, diagnosis, or treatment. Any action you take or refrain from taking using or relying upon the information presented here is strictly at your own risk. You agree that neither the Company nor any of the authors, contributors, administrators, or anyone else associated with [protocols.io](https://protocols.io), can be held responsible for your use of the information contained in or linked to this protocol or any of our Sites/Apps and Services.

Achieve accurate and precise quantification of dsDNA with Qubit dsDNA HS (High Sensitivity) and Qubit dsDNA BR (Broad Range) Assay Kits. These dsDNA quantification kits enable quick and selective detection of low and high abundance DNA samples, and can distinguish dsDNA from ssDNA, RNA, protein, and free nucleotides. Contaminants, such as salts, solvents, or detergents are well-tolerated.

[Qubit\\_dsDNA\\_HS\\_Assay\\_UG.pdf](#)   [Qubit\\_dsDNA\\_BR\\_Assay\\_UG.pdf](#)

Allyson Hirsch, George Testo 2022. Qubit DNA Quantification (Assay).

**protocols.io**<https://protocols.io/view/qubit-dna-quantification-assay-cajpscmm>

protocol ,

Jun 03, 2022

Jun 03, 2022

### Qubit dsDNA HS Assay Kit

The Qubit dsDNA HS (High Sensitivity) Assay Kit, when used with the Qubit Fluorometer, provides an accurate and selective method for the quantitation of sensitive DNA samples. Depending on sample volume, the assay kit is designed to be accurate for initial DNA sample concentrations of 0.005 to 120 ng/μL, providing a detection range of 0.1–120 ng.

### Qubit dsDNA BR Assay Kit

The Qubit dsDNA BR (Broad-Range) Assay Kit, when used with the Qubit Fluorometer, provides an accurate and selective method for the quantitation of DNA samples. Depending on sample volume, the assay kit is designed to be accurate for initial DNA sample concentrations of 0.2 to 2,000 ng/μL, providing a detection range of 4–2,000 ng.

Exercise caution and make sure to use the appropriate PPE (lab coat, gloves, and safety precautions). Some reagents used for this procedure are potentially mutagenic. Dispose of all reagents appropriately.

#### DISCLAIMER – FOR INFORMATIONAL PURPOSES ONLY; USE AT YOUR OWN RISK

The protocol content here is for informational purposes only and does not constitute legal, medical, clinical, or safety advice, or otherwise; content added to [protocols.io](https://protocols.io) is not peer reviewed and may not have undergone a formal approval of any kind. Information presented in this protocol should not substitute for independent professional judgment, advice, diagnosis, or treatment. Any action you take or refrain from taking using or relying upon the information presented here is strictly at your own risk. You agree that neither the Company nor any of the authors, contributors, administrators, or anyone else associated with [protocols.io](https://protocols.io), can be held responsible for your use of the information contained in or linked to this protocol or any of our Sites/Apps and Services.

- Qubit dsDNA HS and BR Assay kits can be used with any Qubit Fluorometer.
- Use with thin-wall, clear, 0.5-mL PCR tubes (Cat. No. Q32856) for the Qubit 4 Fluorometer and 8 x 200-μL tube strips (Cat. No. Q33252) for the Qubit Flex Fluorometer

#### Preparing Working Solution + Samples

2m

- 1 Clean the workstation with DNA Away and Ethanol.

- 2 Remove the PCR plates from the  $-20\text{ }^{\circ}\text{C}$  freezer to thaw.
- 3 Prepare two assay tubes for the upper and lower bound standards, and also one tube for each sample to be tested or quantified for DNA concentration.

3.1 Prepare the working solution (can be calculated using the calculator on the Qubit instrument):

**Prepare the assay tubes as follows:**

- Standards:  $190\text{ }\mu\text{L}$  working solution +  $10\text{ }\mu\text{L}$  standard from kit
- Samples:  $198\text{ }\mu\text{L}$  working solution +  $2\text{ }\mu\text{L}$  sample



3s

Vortex all tubes for  $00:00:03$ .

- 5 Incubate the tubes for  $00:02:00$  at  $\text{Room temperature}$ .

2m

Running Qubit

2m

- 6 On the Qubit 2.0 Fluorometer, select dsDNA High Sensitivity or dsDNA Broad Sensitivity.
- 7 Run two standards as indicated by the program.
- 8 Insert the tubes into the instrument and record the amplicon values.

9



Once finished, throw all assay tubes into the **Qubit disposal bin** and clean the workstation.

10

Return all PCR plates to the **-20 °C** freezer for storage.