



EZQuant™ RNA Quantification Kit I

09/20

(Catalog # K1480-200, -1000; 200 or 1000 Assays; Store at 4°C)

I. Introduction:

BioVision's EZQuant™ RNA Quantification Kit I is used for the sensitive and accurate quantification for RNA. The kit is highly selective for RNA in the presence of DNA and offers advantages in stability, linear dynamic range, and high sensitivity over other traditional methods of RNA quantification. The kit contains a quantification reagent, dilution buffer and RNA standards. The quantification reagent is diluted using the buffer and added to samples. The fluorescence is read at an excitation and emission wavelength of 620 nm and 660 nm respectively. The linear detection range is 5-100 ng RNA. The assay can be adapted for use in microplates, tubes or cuvettes. Common contaminants such as proteins, salts, solvents, detergents, or free nucleotides do not interfere with this assay.

II. Application:

- An ideal tool for accurate quantification of RNA (5-100 ng)

III. Key Features:

- **Highly Sensitive** and Ready-to-use
- Simple, **one-step**, results in 30 min or less
- Signal is stable for 3 h
- Does not detect DNA

IV. Sample Types:

RNA samples

V. Kit Contents:

Components	K1480-200 (200 Assays)	K1480-1000 (1000 Assays)	Part Number
RNA Reagent I (200X in DMSO)	200 µl	1 ml	K1480-XXX-1
RNA Buffer I	50 ml	200 ml	K1480-XXX-2
RNA Standard 1 (0 ng/µl in TE Buffer)	200 µl	1 ml	K1480-XXX-3
RNA Standard 2 (10 ng/µl in TE Buffer)	200 µl	1 ml	K1480-XXX-4

VI. User Supplied Reagents and Equipment:

- Pipettes, Pipette tips
- Nuclease-free Water
- Sterile, nuclease-free 1.5 ml microcentrifuge tubes
- RNA samples with known concentrations
- Black 96-well microplate
- Fluorometer or Fluorescence Plate Reader

VII. Shipping and Storage Conditions:

The kit should be stored at 4°C and in the dark. The kit is light sensitive. The kit reagents are stable for 6 months if stored as recommended.

VIII. Reagent Preparation and Storage Conditions:

1. Dilute the RNA Reagent I 1:200 with RNA Buffer I immediately before use.
2. Wear gloves and protective eyewear when handling RNA Reagent I.
3. Centrifuge the RNA Reagent I and the RNA standards before opening vials to minimize loss on the cap.

IX. Protocol:

The following protocol describes the use of RNA samples for a volume of 10 µl. Researchers can use RNA samples ranging from 1 µl to 50 µl depending on the concentration of RNA sample and then adjust the volume of RNA Reagent I working solution appropriately.

1. Warm up the **RNA Reagent I** to room temperature (RT).
2. Prepare the **RNA Reagent I working solution** by diluting the RNA Reagent I 1:200 with **RNA Buffer I** immediately before use. Use a clean plastic tube each time you make the RNA Reagent I working solution. For eg. add 20 µl RNA Reagent I to 4 ml of RNA Buffer I for measuring 8 samples of 10 µl volume.
3. Add 190 µl of **RNA Reagent I working solution** to each well of a black 96-well microplate. Black 96-well microplates are recommended to minimize fluorescence bleed-through from other wells.
4. Prepare a series of **diluted RNA standards** from RNA Standard 2 or your known RNA samples (not provided).
5. Add **10 µl** of each of the **diluted RNA standards** and the unknown RNA samples in duplicate or triplicates into separate wells and mix well by pipetting up and down.
6. Incubate the microplate at RT for 2 min in the dark.
7. **Measure the fluorescence** using a Fluorescence Plate Reader with an excitation and emission wavelength of 620 nm and 660 nm respectively.
8. Generate a **linear standard curve** by plotting fluorescence vs RNA concentration of the RNA standards. Use the standard curve and the fluorescence of the unknown RNA samples to determine the unknown RNA concentration.

Note: it is preferable to use an RNA standard similar to the unknown samples (for. eg. similar in size, linear vs circular). If the fluorescence of an unknown sample is higher than RNA standard 2, further dilute the sample and add 10 µl of diluted sample to perform the assay.

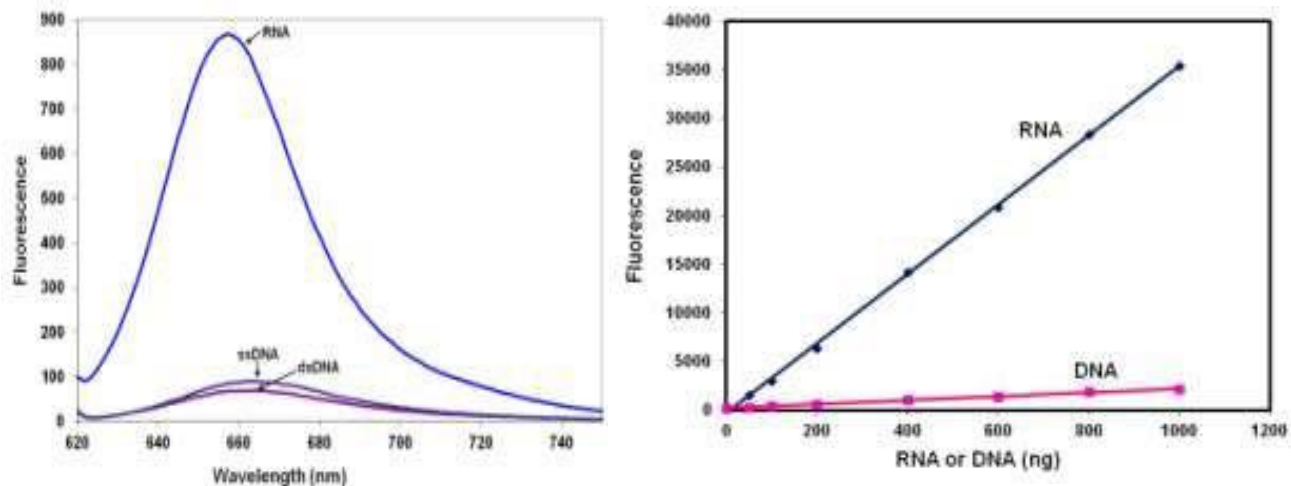


Figure 1. EZQuant™ RNA Quantification Kit I shows higher selectivity for RNA over DNA.

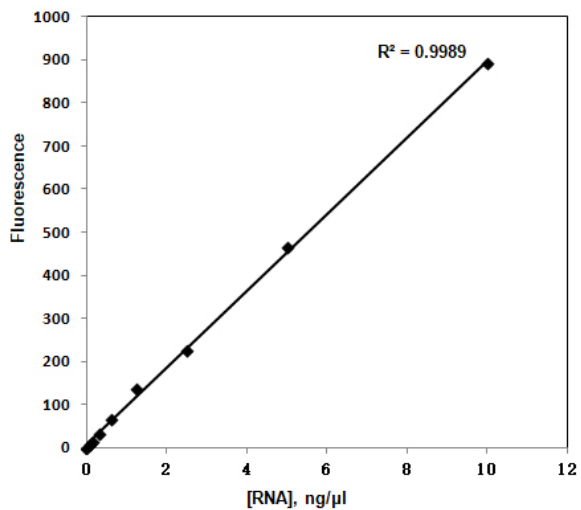


Figure 2. The quantification of rRNA with EZQuant™ RNA Quantification Kit I using fluorescence plate reader.

X. Related Products:

Product Name	Cat. No.	Size
EZQuant™ RNA Quantification Kit II	K1481	200, 1000 assays
DNA Quantification Assay Kit (Fluorometric)	K539	200, 2000 assays
EZQuant™ dsDNA Quantitation Kit (Fluorometric)	K900	2000 assays
RNase Activity Detection/Quantification Assay Kit (Fluorometric)	K934	100 assays
EasyRNA™ Blood RNA Mini Kit	K1373	50, 250 Preps
Yeast RNA Mini Kit	K1418	50, 250 Preps
EasyRNA™ Cell/Tissue RNA Mini Kit	K1337	50, 250 Preps
EasyRNA™ Plant RNA Mini Kit	K1374	50, 250 Preps
EasyRNA™ Fungal RNA Kit	K1419	50, 250 Preps
EasyRNA™ Bacterial RNA Kit	K1351	50, 250 Preps