

Sample QC: Absorbance or Fluorescence?

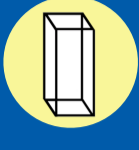
Absorbance

Absorbance methods directly measure the amount of light absorbed by a sample at a specific wavelength. The absorbance of light is proportional to concentration of the sample allowing quantification.



Microvolume

- 1 μL Sample Volume
- No Sample Dilutions Required



Cuvette

- Larger Sample Volume
- Higher Sensitivity than Microvolume

Fluorescence

Fluorophores are bound to the sample of interest and excited with a specific wavelength of light. Emission is measured at a higher wavelength. Sample fluorescence is compared to known standards.

0.5ml PCR Tubes

- 200 μL assay volume
- 1 to 20 μL of sample
- Choose from a wide range of fluorophores and assay kits



Applications

Absorbance Apps



dsDNA



RNA



ssDNA



Protein A280



Peptides



Kinetics



Labeled DNA / Protein



OD600



Colorimetrics



UV/Vis

Fluorescence Apps



dsDNA



RNA



ssDNA



Protein



Basic Fluorometer



Custom Assays

Feature Comparison

0.75
ng/ μL

Not analyte specific

37500
ng/ μL

0.5 to 1 μL

Detects co-extracted contaminants

Zero
cost/sample

Load and measure in seconds

Sensitivity

Specificity

Dynamic Range

Sample Volume

Detect Contamination

Assay Cost

Speed

0.0005
ng/ μL

Highly specific

4000
ng/ μL

1 to 20 μL

No contamination information

Range of assays

Assay set up required

The Verdict



Quick and easy method to quantify a wide range of samples without any assay cost or set up time. Microvolume measurements are possible over a wide dynamic range covering all commonly used samples concentrations. Contaminants can be detected allowing additional quality control.



Fluorescence methods benefit from enhanced sensitivity allowing quantification to sub-picogram per micro liter concentrations. Assays are specific for the analyte under investigation leading to highly specific quantification, without interference from contaminants. Assay kits and known-concentration standards are required.

Combining Measurements

DS-11 FX Series Spectrophotometers / Fluorometers



The most sensitive 1 μL UV-Vis Spectrophotometer

Cuvette Absorbance with heater

Integrated, best-in-class Fluorometer

Total Sample QC

Wide Dynamic Range

Enhanced Sensitivity

Combined Fluorescence and Absorbance

Specific Quantification

Contamination Alerts

The DS-11 FX Series enables both absorbance and fluorescence measurements in one instrument. The combination of absorbance and fluorescence provides greater confidence and accuracy when measuring samples and is a protocol requirement in applications such as Next Generation Sequencing.

Want to learn more or try the DS-11 in your lab?

FREE TRIAL

DeNovix[®]

www.denovix.com