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

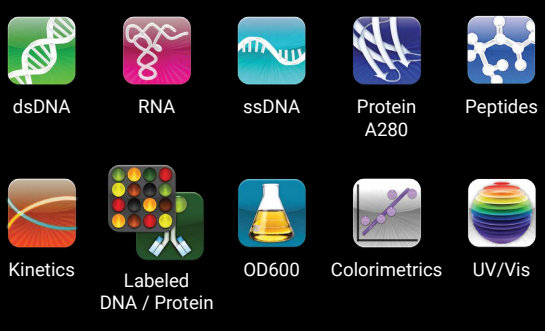
Fluorophores are bound to the sample of interest and excited with a specific wavelength of light. Emission is measured at a higher wavelength. Sample fluorescence is compared to known standards.

0.5 mL PCR Tubes

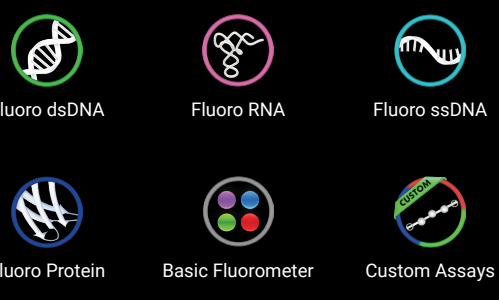
- 200 µL assay volume
- 1 - 20 µL of sample
- Choose from a wide variety of fluorophores and assay kits

DeNovix DS-Series Applications

Absorbance Apps



Fluorescence Apps



Feature Comparison: DS-11 FX+

DS-11 FX+		Fluorescence
0.75 ng/µL	Sensitivity	0.0005 ng/µL
Not Analyte Specific	Specificity	Highly Specific
37,500 ng/µL	Dynamic Range	4,000 ng/µL
0.5 - 1 µL	Sample Volume	1 - 20 µL
Detects Co-Extracted Contaminants	Contamination Detection	No Contamination Information
Zero Cost / Sample	Assay Cost	Range of Assays
Load and Measure in Seconds	Speed	Assay Setup Required

Summary

Absorbance

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

Fluorescence

- Enhanced sensitivity allows 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.
- Requires assay kits and known-concentration standards.

Combining Measurements

Both UV-Vis Absorbance and Fluorescence have advantages depending on the application and sample being quantified. The **DeNovix DS-Series** offers several instrument models with combinations of microvolume absorbance, cuvette absorbance and fluorescence measurement modes.

DS-11 FX+

Spectrophotometer / Fluorometer

1 µL UV-Vis, Cuvette, and Fluorescence in One Instrument

DS-8X+

Eight Channel Spectrophotometer

1 µL UV-Vis (x8), Cuvette, and Optional Fluorometer Module

Free Fluoro Assay Evaluation Kit

- ✓ dsDNA or RNA assays
- ✓ 50 samples
- ✓ Free Shipping to Your Lab

DeNovix®