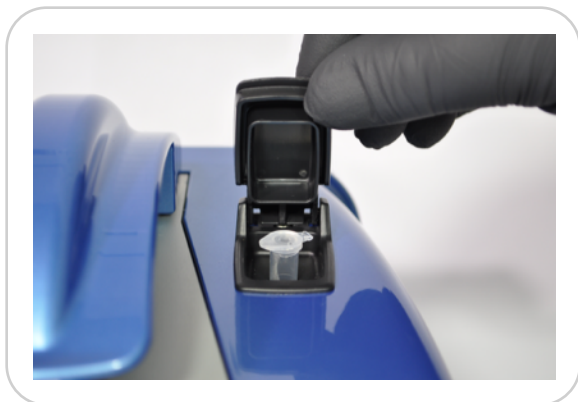


Fluorescence Measurement Best Practices

Technical Note 154

Introduction

Fluorometric DNA and protein quantitation assays are now routine in many life science research labs. As with many fluorescence techniques, it is important to apply best practices to ensure reliable results and reduce user error. This tech note provides some best practice tips for making fluorescent measurements using the DeNovix DS-11 FX or QFX series of fluorometers.



LED Selection

Preconfigured assays automatically use the correct excitation sources and emission filters. For user-defined methods, ensure that the excitation source (LED) and emission filters are appropriate for the fluorophore or assay of interest.

LEDs	Excitation	Emission Filter Range
UV	~375 nm	361 - 389 nm
BLUE	~470 nm	442 - 497 nm
GREEN	~525 nm	490 - 558 nm
Red	~625 nm	613 - 662 nm

Sample Tubes

- Use only clear 0.5 mL thin walled PCR tubes for sample measurements .
- Use 200 μ L final volumes for all standards and samples.
- Do not label the side of an assay tube as this could interfere with the sample measurement.
- Ensure the tube is clean and dry on the outside before inserting into the DS-11 FX or QFX tube chamber. Moisture and condensation on the tube surface may lead to measurement errors.

Sample Preparation

- Protect dye reagents and working solutions from light.
- Confirm fluorophore assay reagent is compatible with sample buffer components.
- Follow assay reagent manufacturers' recommendations regarding standard curve concentrations.
- Treat all samples and standards identically in terms of volumes, incubation times and temperature.
- Measure all standards and samples within the assay manufacturer's recommended assay time frames.

Sample Measurements

- Ensure that the assay tubes (and solutions) are at room temperature at the time of the measurement. Temperature fluctuations may impact the accuracy of the assay.
- Ensure sample solutions are homogenous and well mixed before sampling. Avoid introducing air bubbles into the sample solution when mixing sample.
- Lower the DS-11 FX or QFX cover before tapping the Measure button.

