ABSORBANCE MEASUREMENT ON µDrop PLATE

Introduction

The Thermo Scientific™ µDrop™ Plate is a quick and easy tool for DNA and RNA assays using photometric measurement and sample volumes down to 2µL.
The µDrop Plate provides a straightforward way of analyzing up to 16 microliter-scale samples simultaneously. The fixed light path of the µDrop Plate allows direct calculation of the nucleic acid concentrations of the samples. Samples are easy to pipette onto the plate with a single- or an eight-channel pipette. It takes less than 10 seconds to measure the full DNA spectra from all 16 samples with **Hidex Sense** platereader. For flexibility, the µDrop Plate also enables cuvette measurement. The µDrop Plate is available from Hidex.

The **Hidex Sense** will help your lab become more effective. The touch screen user interface makes the operation safe and comfortable. Straightforward application focused operation minimizes time spent on instrument training, and is essential for superior results. ELISA, protein quantification and enzyme activity assays are measured with ultrafast full spectrum readout, using

Materials

	DNA	Calf Thymus DNA, Lyophilized Powder, Type XV (Sigma D 4522)
	Microplate	µDrop (Hidex Code 425-5801)

Hidex Sense

µDrop Plate

Test procedure

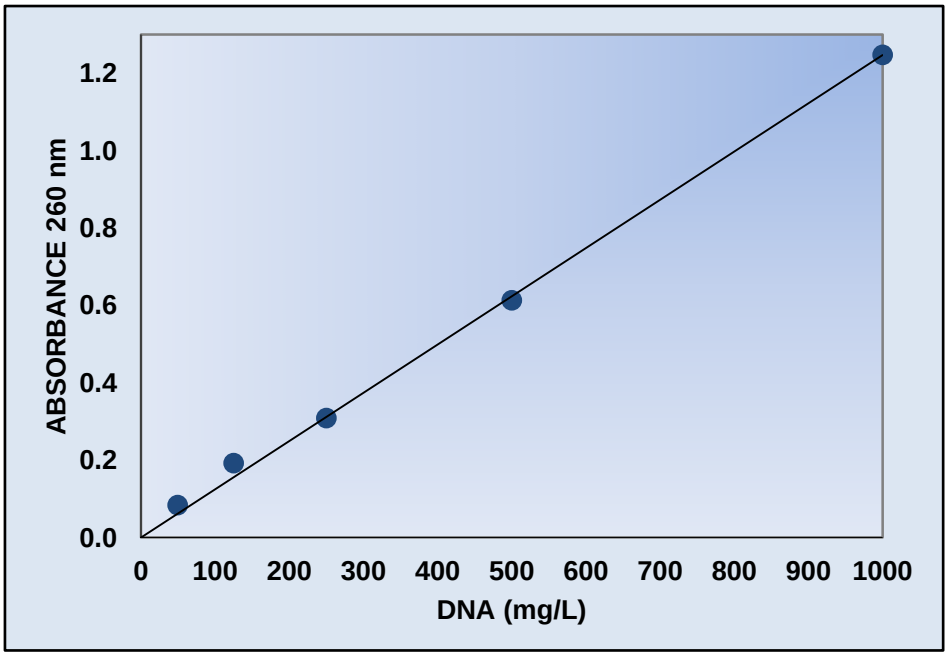
5 µL of DNA dilutions were pipetted in duplicates into the measurement positions on the plate. Absorbances were measured at 260 nm and at 320 nm. The 320 nm OD values were used as as blanks.

Reader setup

Flashes	10
Wavelengths	Center 260 nm (window 5)
	Center 320 nm (window 5)

Results

	260 nm			320 nm (Blank)			
Conc (mg/L)	***Repl 1***	***Repl 2***	***Avg.***	***Repl 1***	***Repl 2***	***Avg.***	***Avg. - Blank***
50	0.129	0.125	0.127	0.043	0.044	0.044	0.084
125	0.245	0.215	0.230	0.038	0.038	0.038	0.192
250	0.361	0.347	0.354	0.042	0.049	0.046	0.309
500	0.658	0.651	0.655	0.043	0.040	0.042	0.613
1000	1.298	1.285	1.292	0.046	0.042	0.044	1.248



Absorbance vs. DNA concentration.

Conclusions

µDrop Plate is a practical tool in photometric DNA and RNA quantitation and purity analysis on Hidex Sense platereader. The spectrograph used in absorbance measurement enables simultaneous detection several wavelengths. The DNA purity test is a good example about multi-wavelength assay in which OD values at 260 nm, 280 nm and 320 nm are required.