

Fluorescence Based Nucleic Acid Assays

Fluorescence based assays for nucleic acids are useful when samples are below the detection limits for UV Spectroscopy or contain other 260 nm absorbing molecules prohibiting accurate DNA or RNA concentration determination. The unique sample retention system of the Thermo Scientific NanoDrop™ 3300 Fluorospectrometer offers the ability to measure 1-2 ul and save costly reagents, disposables and precious samples. The table below is a quick and useful guide to nucleic acid assays pre-coded in the NanoDrop 3300 operating software.

Assay	Detection Range	LED source/EM wavelength
Hoechst Dye 33258	DNA 75-1500 ng/ml	UV/450
AccuBlue BR	DNA 50-10,000 ng/ml	UV/460
AccuBlue HS	DNA 1-500 ng/ml	Blue/530
PicoGreen	DNA 1-1000 ng/ml	Blue/525
Quant-iT DNA BR	DNA 10-5000 ng/ml	Blue/523
Quant-iT DNA HS	DNA 1-500 ng/ml	Blue/530
SybrGreen I	DNA 1-1000 ng/ml	Blue/527
SybrGold	ssDNA 2.5-1000 ng/ml	Blue/550
RiboGreen	RNA 5-50 ng/ml (1-2000 dye dilution) 25-1000 ng/ml (1-200 dye dilution)	Blue/525

Pre-formulated reagents, utilized in the above assays are available in kit form from specific manufacturers. Please see the manufacturer's recommendations for the particular assay of interest.