

PRESS RELEASE

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Nanodroplet Biospectrophotometry

Lambda Advanced Technology offers a new system for spectrophotometric analysis of 1 μL biological samples. The combination of a fibre-optically coupled micro cell with a range of high performance UV/Vis spectrophotometers provides highly accurate analysis of nanodroplets as small as 70 nL with remarkable reproducibility. The average dynamic range for dsDNA is between 2 ng/ μL and 5000 ng/ μL , depending on the particular spectrophotometer.

A choice of spectrophotometers from low cost reference beam systems to double beam research quality instruments brings unparalleled versatility. Although all the instruments feature comprehensive nucleic acid application programs, this powerful combination is not restricted to nucleic acid measurements. They retain their full spectrophotometer capabilities and can be used both with standard and microlitre samples.

Standard nucleic acid measurements typically include absorbance ratio (A₂₆₀/A₂₈₀), purity and concentration measurements for RNA, ssDNA and dsDNA. Oligonucleotide molar concentrations can also be calculated. Protein concentration is calculated using the Warburg-Christian method.

Labelled DNA measurements can also be made. By calculating the concentration of unlabelled primer (oligomer) and primer labelled with a fluorescent dye, the combination can be used to verify that the dye is bound to the primer in advance of DNA sequencing applications.

Two versions of the micro cell are available giving a defined optical light path of 1 mm and 0.2 mm. Samples are dropped onto the surface of the cell's optical window. Integrated beam deflection and fibre-optic cables allow direct measurement. A sample cap equipped with a mirror completes the optical arrangement and prevents the sample from drying up. In addition, valuable samples can be retrieved after analysis.

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