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Micro-Volume Fluorospectrometer Introduced by NanoDrop Technologies

Wilmington, DE - NanoDrop Technologies recently introduced the NanoDrop® ND-3300 Fluorospectrometer to its line of innovative analytical instruments that are allowing researchers to easily measure ever-smaller sample amounts.

The NanoDrop® ND-3300 Fluorospectrometer can perform full spectrum fluorescent analysis of one microliter samples without the use of cuvettes or capillaries. The instrument's patented sample retention system, first introduced with the NanoDrop® ND-1000 Spectrophotometer, uses surface tension to hold the sample in place on the fiber optic measurement surface. Through the unconventional use of a white LED in addition to commonly used UV and blue LED sources, a broad excitation range is achieved without cumbersome and costly filter changes.

This space-saving fluorospectrometer offers unique features that allow investigators to use fluorometry in valuable new ways. For example, the 9"x5" instrument provides the benefits of measuring two picograms of DNA in a two-microliter PicoGreen® reaction. (The unique capabilities may be evaluated through a free demo instrument program.)

With assays in microgenomics, proteomics and drug discovery requiring progressively smaller sample analysis, the ND-3300 allows for sample conservation because of its ability to measure minute amounts of biomolecules. Concentration can be determined for dsDNA using the PicoGreen Assay, Quant-iT™ DNA Assay, or Hoechst 33258 dye and for RNA using RiboGreen® dye. Using Quant iT™ Protein assay kit, the concentration of proteins can be determined.

Additional preconfigured software applications include FITC (fluorescein), Cy-AlexaFluor dyes, B-Phycoerythrin, Quinine Sulfate, Sulforhodamine and 4-MU. The method editor may be used to configure additional or custom fluorescent applications. The ND-3300 pushes the sensitivity of nucleic acids and microarray dyes far beyond that of the ND-1000 spectrophotometer. As little as two picograms or one ng/ml of dsDNA can be measured using a two microliter PicoGreen assay. Sensitivity of Alexa 647 is two femtomoles or 2nM.

The ND-3300 system works by simply opening the apparatus arm and pipetting a 1-2ul droplet of sample onto the optical surface of the measurement pedestal. When the apparatus is closed, a liquid column is drawn between the measurement pedestal and the lever arm. Surface tension alone holds the sample in place for the spectral measurement. Excitation occurs from one of three (3) solid-state light emitting diodes oriented 90 ° to the detector. The unconventional use of the broad spectrum, longer wavelength white LED is enabled by the combination of uniquely clean optics of the retention system and proprietary signal processing. Fluorescence emission is collected by the CCD array detector and the system software instantly displays the emission spectra (395-750nm) and calculated RFU of the sample. Once the measurement is complete, the researcher simply wipes the sample off with an ordinary lab wipe.

The small sample volume, broad excitation range, full spectrum analysis, small footprint and remarkable ease-of-use, make the NanoDrop® ND-3300 Fluorospectrometer ideal for today's research environment. The versatility of this instrument gives investigators the opportunity to explore possibilities previously unfeasible using conventional systems.

NanoDrop Technologies Inc., a Delaware corporation established in 2000, develops, manufactures and sells unique analytical instruments for bioresearch. NanoDrop Technologies Inc. holds exclusive rights to its patented sample retention technology. For more information, contact Lynne Kielhorn or Philippe Desjardins at 302-479-7707.