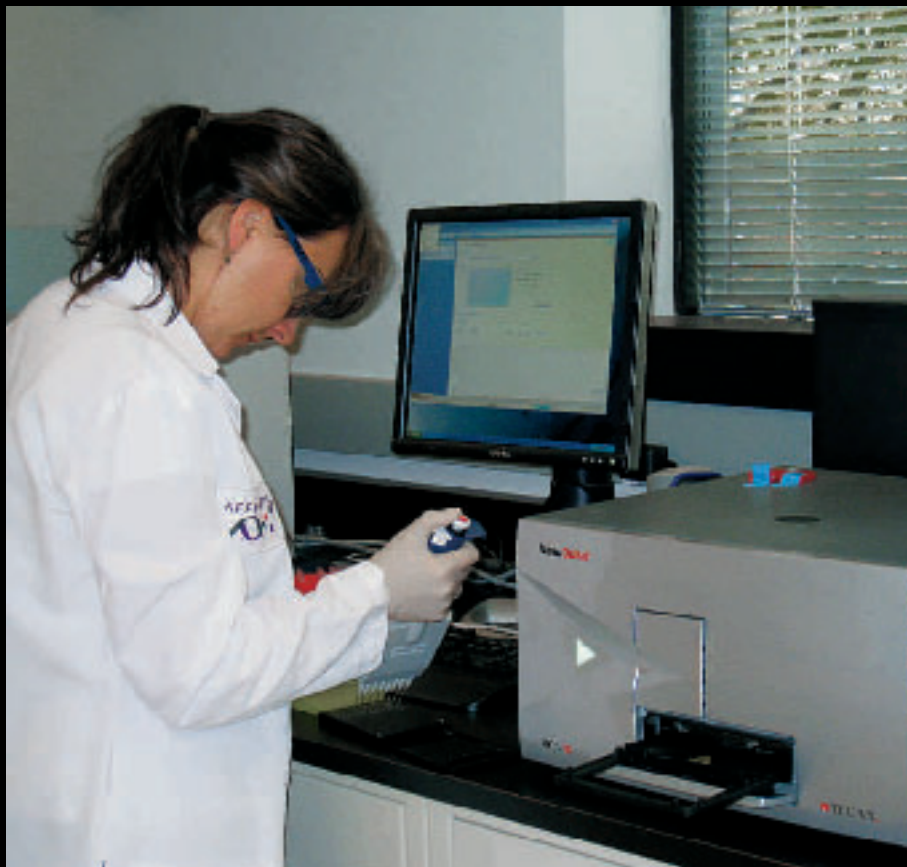


Small volume DNA quantification with high throughput

Scientists from Affymetrix, Inc., a world-leading supplier of microarray equipment and assays, evaluated the Tecan Infinite® 200 NanoQuant multimode microplate reader and two other spectrophotometers for DNA concentration analysis in a new cytogenetic assay they have developed. The researchers showed that the Tecan instrument gave the best results, with ease-of-use, high throughput and a low coefficient of variation.




Diane Flaucher, senior research associate in assay development, preparing samples to be analyzed by the Infinite 200 NanoQuant.

The Product Development Organization at Affymetrix, in Santa Clara, California, USA, develops biological and molecular biological assays and solutions mainly for genomics applications used by commercial customers in industry and academia. Dr Jim Collins, Director of Assay Development Molecular Diagnostic, explained: "We have recently developed a new generation general cytogenetic assay, which requires the quantification of small volumes of DNA on a spectrophotometer." Jim and his colleagues evaluated three spectrophotometers from different companies during the development of the new assay, including the Infinite 200 NanoQuant from Tecan.

"I had previously worked and collaborated with Tecan, and was very excited to see that Tecan had developed an instrument for low volume DNA concentration analysis, with a higher throughput than anything else available for quantification of low volumes. To discover an instrument that could process sixteen samples at once thrilled me. I have always been highly impressed with the quality of instrumentation from Tecan in terms of its robustness and reliability, and hearing about this new instrument fired my enthusiasm to evaluate it in our laboratory; I felt it could be highly suitable particularly for the new assay that we have been developing. We have a group of nearly ten

people working on this particular project, and the Infinite 200 NanoQuant is in regular daily use during assay development."

Vicky Huynh, Jim's colleague who carried out the evaluation, explained: "I found the Tecan reader to be a fantastic addition to our laboratory because it is quick and the software is very easy to use, with automatic display of results and a summary at the end of the measurements. The NanoQuant Plate™ is compatible with multichannel pipettes for high throughput, and quantification of whole microplates is really quick, taking only a few minutes. The easy-to-clean plate helps to eliminate cross-



contamination and there is no need to dilute samples. It is ideal for both high and low throughput, processing batches of sixteen samples in just one minute. I found that the instrument has a high reproducibility, with a coefficient of variation of less than 5 %."

Jim added: "The Tecan reader has worked really well for the assay, and is one of three recommended spectrophotometers included in our user guide accompanying the new assay. When we suggest instruments to our customers, our focus is to give them flexibility and provide them with reliable options. We want them to be able to use instrumentation that they already have in their laboratories where possible, but also recommend instruments when they need to buy specifically for the purpose to make the performance of the assay as good as it can be in their hands. The assay requires measurement of DNA concentrations on a spectrophotometer, and an increasing number of laboratories are beginning to move to instruments like the Infinite 200 NanoQuant where they can quantify DNA or RNA from very small volumes. This saves time and conserves samples, as dilutions are not required."

"In our experience, the Infinite 200 NanoQuant has advantages over the other instruments we tested, primarily the increased throughput and the features of the user interface. The Tecan instrument is very simple to set up runs; it measures the samples very quickly and the user interface gives an excellent dynamic graphic display that shows how the samples are progressing in real time. All these features make the instrument really easy to use and that is why we were very keen to provide it as an option to our customer base," Jim concluded.

To find out more, visit www.tecan.com/Infinite200nanoquant