

Spotlight

Drug Discovery & Pharmaceutical Analysis

Characterisation of Polymers, Proteins, Biomolecules and Nanoparticulate Materials



Analytica 2008 has been selected by Viscotek as the venue to unveil its latest technological and applications advances for multi-detector characterisation of polymers, proteins, biomolecules and nanoparticulate materials.

Visitors to the Viscotek exhibit on Booth 383, Hall A1 will be able to see and discuss, with technical specialists, a new generation of the popular Model 802 Dynamic Light Scattering (DLS) instrument - the Model 802DAT. Traditionally laboratories faced with analysing higher concentration samples, such as protein crystallography scientists, protein NMR scientists, emulsions or nanoparticle researchers, have found traditional light scattering instruments limited both in terms of sensitivity and resolution. To address these deficiencies Viscotek developed as an option for its new generation system - Dual Attenuation Technology. Dual Attenuation Technology (DAT) is a unique technique that controls the level of light entering the sample as well as controlling scattered light going to the detector. In this way, for the first time, researchers are able to work at the optimum conditions for the laser and detector irrespective of sample type. Designed for laboratories that need a complete understanding of how their natural or synthetic macromolecule behaves in solution the Model 802DAT sets a new standard for superior sensitivity, resolution, accuracy and sampling versatility compared to any other light scattering instrument currently available.

Incorporating Viscotek's patented Single Mode Fibre (SMF) optical detection, unique Dual Attention Technology (DAT) and independent temperature control of microplate and sample the HorizonDLS™ High-Throughput DLS plate reader sets a benchmark for automated biomolecular characterisation. The HorizonDLS™ delivers the same unmatched sensitivity on ultra low sample volumes as the acclaimed Model 802 DLS, but

automatically, from the entire plate or selected wells, with no user interaction required. After manual or robotic placement of a prepared microplate into the temperature controlled instrument - intuitive OmniSIZE™ software then automatically makes the measurements according to the user programmed acquisition sequence and the results are displayed in seconds. A complete size distribution of an entire microplate can be automatically accomplished in just minutes. The HorizonDLS™ uniquely delivers both productivity and performance to a broad range of applications including screening of aggregates prior to protein crystallisation, monitoring size and aggregation as a function of varying solution conditions, buffer optimisation and characterisation and screening biotherapeutics for self-association.

For polymer, biopolymer and protein scientists visiting the show Viscotek will display its market leading Triple Detector Array (TDA™) and popular GPCmax™ systems.

Circle no. 225

Aminoglycoside and Macrolide Antibiotics Analyser

Antec Leyden has developed integrated system solutions for the analysis of the aminoglycoside and macrolide antibiotics. The system is dedicated to the analysis of pharmaceutical formulations and bulk products. Aminoglycosides are manufactured by a fermentation process and the main constituents, including impurities and by-products can be identified and quantified.

Samples from different sources can be analysed as well, for example a veterinary cocktail of Spectinomycin and Lincomycin has been analysed using a step gradient. For the analysis of Azithromycin a method has been developed that allows analysis of several other macrolides as well.



For pulsed amperometric detection of aminoglycosides Antec Leyden selected the Flexcell electrochemical cell. This cell has an exchangeable working electrode which is particularly useful as electrode consumption occurs in the process.

Exchanging for a new electrode disc only takes a few minutes. The HyREF is completely maintenance free even at pH 13 which is required for pulsed amperometric detection. Several application notes are available on their website.

Circle no. 226

Rapid Diagnosis of Community Acquired Pneumonia

Across Europe and the US, Community Acquired Pneumonia (CAP) affects 100 per 100,000 adults a year with a mortality rate of 10-20%. However, where antibiotic therapy has been received within 4 hours of admission there has been a 15% reduction in mortality.

Inverness Medical has responded to the need to rapidly and accurately diagnose CAP by introducing BinaxNOW® S. pneumoniae and Legionella, part of the BinaxNOW® range of rapid respiratory tests. The simple, swab based BinaxNOW S. pneumoniae and Legionella immunochromatographic assays provide clear reliable results in as little as 15 minutes from urine samples.

Through BinaxNOW's ability to test and provide patients with their results in one visit, healthcare professionals can ensure the most appropriate treatment is administered without delay and that hospitalisation and potentially life threatening complications are avoided.

With clinical guidelines advising against the routine use of antibiotics for respiratory tract infections, BinaxNOW can help reduce inappropriate antibiotic prescribing and in turn prevent the risk of antibiotic resistance occurring in strains of respiratory infections. Additionally, the BinaxNOW S. pneumoniae rapid test can also be used for the swift diagnosis of pneumococcal meningitis from cerebro spinal fluid (CSF).

The BinaxNOW range of rapid tests for respiratory infections covers Influenza A and B, Legionella, RSV, Strep A and S. pneumoniae. With an easy to use patented book-shaped test device, Inverness Medical continues to enable early and accurate diagnosis of disease with its BinaxNOW rapid tests.



Circle no. 227

Major Veterinary Centre to Increase Throughput of Antibiotic Potency Testing

Synbiosis is pleased to announce that an internationally recognised centre of excellence in veterinary research, the Veterinary Laboratories Agency (VLA), has chosen to install sixteen specially customised ProtoCOL, automated colony counting and zone sizing systems. The systems, which will be sited at every VLA unit across the UK, will be used to speed up testing of veterinary antibiotics for therapeutic use and to collect and monitor zone size data for surveillance purposes.

The VLA ProtoCOL systems, which consist of a computer controlled, high-resolution CCD camera integrated with image analysis software, can read an entire plate, including measurement of inhibition zones and transcription of results, in minutes. This will save VLA's microbiologists hours of repetitive tasks, as well as improve the accuracy of results by eliminating manual measurement and transcription errors.

The software included with the VLA ProtoCOL is so well designed it can measure inhibition zones with a resolution better than 0.05mm from the edge of an antibiotic disc to automatically produce data on the zone size only. This will save VLA scientists' time because they will be able to perform tests with different antibiotic disc sizes on one plate without having to measure and subtract disc diameter sizes from their calculations. The VLA ProtoCOL is also fully GLP compliant, with the data generated automatically transcribed into Excel or transferred to the VLA LIMS system to allow results to be safely stored or statistically analysed.



Circle no. 228