Taking special care of dangerous pathogens

The P4 Inserm-Jean Mérieux laboratory in Lyon relies on the flexibility, robustness and reliability of Tecan's Infinite® 200 PRO monochromator-based microplate reader for absorbance-, luminescence- and fluorescence-based assays on Risk Group 4 pathogens.

The P4 Inserm-Jean Mérieux laboratory in Lyon is a highly secure laboratory, the largest of its category in Europe, affiliated to the French National Institute of Health and Medical Research (INSERM), and open to national and international scientific teams that need to handle Risk Group 4 pathogens. P4's main activities include diagnosis, research, biosafety and training on agents responsible for viral hemorrhagic fevers (Ebola, Marburg, Crimean-Congo hemorrhagic fever and Lassa) and fatal encephalitis (Nipah and Hendra).

In his role as Biological Technics Engineer in the *in vitro* experimentation and diagnostic team at P4, Stephane Mely chose an Infinite 200 PRO microplate reader for the many assays performed under Biosafety Level 4 (BSL4) conditions. He explained: "I am responsible for all scientific equipment, from purchasing to its final implementation in scientific programs and technical training of my fellow P4 scientists. We chose the Infinite 200 PRO specifically for absorbance-, luminescence- and fluorescence-based assays performed in accordance with very special BSL4 conditions. These include ELISAs, bioluminescence detection using luciferase activity, and pathogen detection with molecules coupled with fluorophores. As an example, we recently ran a fluorimetric assay looking at the neuraminidase activity of the influenza virus

Researcher at the P4 laboratory

after reaction with new specific molecular inhibitors. Neuraminidase (sialidase) activity was detected by hydrolysis of the 4-MUNANA substrate (4-methylumbellifery-α-D-N-acetylneuraminic acid) into 4-methylumbelliferone. This hydrolysis ensures a shift of fluorescence spectra from substrate to product, and can be read at excitation 365 nm/emission 450 nm."

One of the most important aspects of equipment in a Category 4 laboratory is robustness, not least because of limited access to the laboratory for maintenance and repairs. Stephane added: "We chose this instrument because the monochromator system allows us to work with any wavelength we need without considering whether or not we have the correct filters. Also, its resistance to decontamination products like hydrogen peroxide is essential for our work. It is simple to use, a convenient size and, like all Tecan instruments, is known to be a robust device."

The excellent performance and organizational methods of the P4 laboratory have been recognized by the European authorities and it is now coordinating the European Research Infrastructure on Highly Pathogenic Agents (ERINHA) project, aiming to provide better response and protection for citizens in the event of an epidemic.

To find out more about Tecan's Infinite 200 PRO plate reader, visit **www.tecan.com/infinite200pro**

To find out more about the P4 Inserm-Jean Mérieux laboratory, please contact **directeur.laboP4-lyon@inserm.fr**

Roland Durner, General Manager for Tecan Australia

Leading the debate

Tecan's customers in the Australasian region want the same thing as all our customers; reliable, intuitive, state-of-the-art products, backed by applications know-how, technical expertise and flexible local support. However, in our region perhaps more than anywhere else in the world, this can be easier said than done, as some of our competitors have discovered.

Many laboratories in Australia and New Zealand, in universities, hospitals and government research institutions, are funded by public money. Safety and security are crucial aspects, and it is critical that instruments are used to full advantage and are always up and running, not sitting collecting dust. Purchasing decisions are frequently made based on the availability and track record of a supplier's maintenance and repair services.

Australia and New Zealand are massive exporters of agricultural products. Tecan Australia supports the quality, product development and food safety departments of these customers, who are often situated in very remote locations. No matter how reliable an instrument, the option to have maintenance and support services available is a big consideration before making any capital outlay.

Providing the capacity to support highly sophisticated customers, servicing complex instruments – both Tecan branded and those produced through its partnering business – far away from the company headquarters is what really sets Tecan Australia apart. Tecan Australia combines reliable products with a flexible, local support organization and, in its role as Tecan's newest subsidiary, it is well placed to support our customers, wherever they are and whatever they need, in our region.

How crucial is local support to you? Send your comments to talk@tecan.com