

AusDiagnostics

Pioneering Syndromic Diagnostics

Imagine a scenario: Winter has arrived, and patients flock to a diagnostic center or hospital complaining of respiratory difficulties associated with the season.

The physicians order a battery of tests for all suspect causes. Through a tedious cycle of sample collection and testing and after repeated negative results and guesswork, they finally find the causative agent.

What if all these could have been tested in one go, uncovering the issue earlier and preventing delays in diagnosis and treatment?

AusDiagnostics, a manufacturer and supplier of in vitro diagnostic (IVD) solutions, presents a groundbreaking multiplexed diagnostics solution that seamlessly detects an ailment's root cause. This expedites diagnosis and relieves healthcare providers from acting on guesswork. It uses a molecular diagnostic approach that harnesses the power of genes to detect the causative agent, describe its characteristics, and pinpoint irregularities in the early stages, making it applicable to a wide range of diagnostic needs.

The company adopts a revolutionary syndromic perspective to invent TandemPlex, a Multiplex Tandem PCR (MT-PCR) solution that allows simultaneous testing of a wide array of diseases with similar symptoms in a single, comprehensive panel.

With a dynamic and talented team sensitive to customer needs, AusDiagnostics excels in human diagnostic areas like enteric pathogen testing, respiratory infections, sexual health, women's health, and bacterial drug resistance. It also offers veterinary diagnostic solutions for infectious, respiratory, and neurological diseases.

"We have shifted the IVD paradigm, creating a versatile panel that detects all diseases with shared symptoms, be it viral, bacterial, fungal, parasitic, or genetic," says Dr. Dmitry Kuevda, director of product and business development at AusDiagnostics.

It harnesses the power of robotic technology to address the formidable costs and labor associated with the general laboratory practices. This inventive approach expedites



Dr. Dmitry Kuevda,
Director of Product & Business Development



the diagnostic process, avoids unnecessary work and potential delays in patient care.

AusDiagnostics' patented MT-PCR technology employs a highly efficient two-step nucleic acid amplification process. In the first step, it selectively amplifies multiple genetic targets at the same time, but on a smaller scale. This ensures the amplification doesn't reach a point where different targets are competing against each other or where potential inhibitors are causing issues.

Once all the positive targets are successfully concentrated in this initial reaction, the second step begins where a specific sub-fragment within each target is amplified without interference from other sub-fragments or inhibitors. This two-step approach allows carrying out testing for every target without exhausting the test sample.

AusDiagnostics' key strength lies in the design flexibility and manufacturing of its diagnostic panel that acknowledges the regional diversity in disease profiles across the globe. While the majority causes of diseases may overlap, there are certain country-specific or regional situations that it takes into account during diagnosis.

For instance, New Zealand exhibits differences in the causes of diarrhea, driven by the prevalence of

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two globally rare bacteria, *Yersinia pseudotuberculosis* and *Vibrio parahaemolyticus*. Commercial off-the-shelf products often fall short in addressing these distinct targets.

To resolve this issue, AusDiagnostics proposed a modification to their standard diarrhea testing panel, incorporating tests for these bacteria. In collaboration with a laboratory, they conducted clinical validation, resulting in the creation of a tailored, country-specific product.

To improve patient care on a regional and global scale, AusDiagnostics has launched its Strategic Partnership Program to use collective knowledge

and resources to advance the field of diagnostics. The initiative invites research institutions and local pathology services for collaborative efforts in the creation of molecular diagnostic multiplex panels that cater to local requirements.

AusDiagnostics solidifies its position as an industry trailblazer through its cutting-edge IVD technology and a pioneering approach to disease diagnosis. In its pursuit to enhance the healthcare landscape through syndromic testing, it stands as a steadfast ally for diagnostic centers and healthcare providers. 

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MEDTECH OUTLOOK

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