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Infectious disease molecular diagnostics commercialization: An academic's perspective

Thomas Barry NUIG, Ireland

Molecular diagnostics, which employs nucleic acid probe sequences and nucleic acid in vitro amplification technologies to analyse DNA and/or RNA in biological samples, has now entered mainstream testing laboratories.

The Molecular Diagnostics Research Group (MDRG) at NUI Galway has over 20 years experience and an international track record of achievement in the development, design, application and commercialisation of molecular diagnostics tests for the detection of microbial species of importance. The MDRG has developed a suite of technologies, based on proprietary nucleic acid sequence targets, for the identification of bacteria and fungi.

This presentation will outline the core MDRG research activities including:

Infectious Disease diagnostics target technologies – "Biodiscovery": The MDRG has developed target technologies for use in microbial molecular based diagnostics tests and include Spacer Probe, RiboSEQ, MycoSEQ, MycoTECH, RiboTECH and MtSEQ technologies.

Nucleic acid based test design and clinical evaluation – "Adding value": MDRG proprietary target technologies have been combined with real-time in vitro amplification based technologies (PCR and NASBA) and configured on various instrumentation platforms for the rapid detection of a wide range of microbial pathogens associated with hospital acquired infections, respiratory tract infections, sepsis, gastroenteritis, STI's, food pathogens, etc.

Comercialisation – "From bench to bedside": MDRG technologies have been commercialised through licensing agreements and co-development collaborations with a number of multinational IVD companies. Brief case studies of these co-collaborations will be presented. The benefits and drawbacks of working with industry will also be addressed.

Biography

Thomas Barry is a research Director and a founder member of the Molecular Diagnostics Research Group (MDRG) at NUIG. Research interests are primarily focused on the research, development and commercialisation of platform nucleic acid based diagnostics technologies for the detection and identification of microbial agents. These technologies, over the past 5 years, have generated approximately €12 million in funding and revenue through agency and industry driven commercial product research and development and through intellectual property licensing agreements.

thomas.barry@nuigalway.ie