Print this Page for Your Records Close Window

Control/Tracking Number: 22-A-289-AACC
Activity: Abstract
Current Date/Time: 2/22/2022 1:16:39 AM

Identification of clinical common invasive fungal disease via a multi-channel qPCR melting curve analysis

Author Block: Z. Wang, S. Li, Y. Zhang, X. Yan, W. Yao, H. Wang. *Dynamiker Sub-Center of Beijing Key Laboratory for Mechanisms Research and Precision Diagnosis of Invasive Fungal Disease, Tianjin, China,*

Abstract:
BackgroundQuantitative polymerase chain reaction (qPCR) is a routinely used method for the detection and quantitation of gene expression in real-time. Multiplex qPCR requires the use of probe-based assays, in which each probe is labeled with a unique fluorescent dye, resulting in different observed signals for each assay. The signal from each dye is used to detect each target separately in the same tube or well. The availability to multiplex therefore allows the measurement of the expression levels of several targets or genes of interest quickly. Based on the above principles, a series of kits including MycoMDx *Aspergillus* PCR Assay Kit, MycoMDx *Mucorales* PCR Assay Kit, MycoMDx *Pneumocystis Jiroveci* PCR Assay Kit, and MycoMDx *Talaromyces marneffei* PCR Assay Kit were developed. (Table 1). **Methods**In the present study, we evaluated the clinical performance of the MycoMDx *Aspergillus* PCR Assay Kit, MycoMDx *Mucorales* PCR Assay Kit, MycoMDx *Pneumocystis jiroveci* PCR Assay Kit and MycoMDx *Talaromyces marneffei* PCR Assay Kit (CE- approved), which includes 153 clinical samples (Positive samples 78; Negative samples 75). The above PCR detection reagents were developed and produced by Dynamiker Biotechnology (Tianjin) Co., Ltd. **Results**The sensitivity and specificity of the MycoMDx *Aspergillus* PCR Assay Kit, MycoMDx *Mucorales* PCR Assay Kit, MycoMDx *Pneumocystis jiroveci* PCR Assay Kit and MycoMDx *Talaromyces marneffei* PCR Assay Kit were 92.0% and 97.1%, 91.7% and 100.0%, 90.5% and 97.7%, 95.0% and 97.1%, respectively. **Conclusions**The *Aspergillus* PCR Assay Kit, MycoMDx *Mucorales* PCR Assay Kit, MycoMDx *Pneumocystis jiroveci* PCR Assay Kit, and MycoMDx *Talaromyces marneffei* PCR Assay Kit have a great clinical value. Especially, the *Aspergillus* PCR Assay Kit can fast and accurate identification of clinically relevant *Aspergillus* species (*A. fumigatus, A. flavus, A. terreus, and A. niger*) directly in clinical samples (BALF, serum).

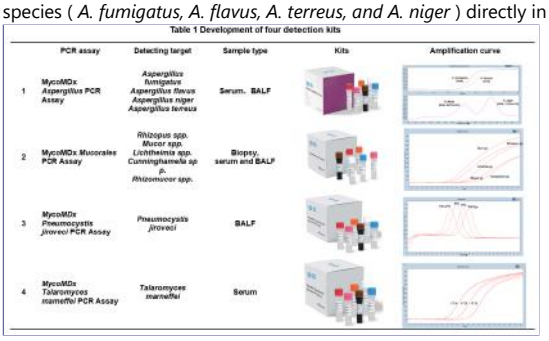
Table 1 Development of four detection kits

	PCR assay	Detecting target	Sample type	Kits	Amplification curve
1	MycoMDx *Aspergillus* PCR Assay	*Aspergillus fumigatus* *Aspergillus flavus* *Aspergillus niger* *Aspergillus terreus*	Serum、BALF		
2	MycoMDx Mucorales PCR Assay	*Rhizopus* spp. *Mucor* spp. *Lichtheimia* spp. *Cunninghamella* spp. *Rhizomucor* spp.	Biopsy、serum and BALF		
3	MycoMDx *Pneumocystis jiroveci* PCR Assay	*Pneumocystis jiroveci*	BALF		
4	MycoMDx *Talaromyces marneffei* PCR Assay	*Talaromyces marneffei*	Serum		

Topic (Complete): Molecular Diagnostics ; Microbiology and Infectious Diseases
Related Division (Complete): Molecular Pathology Division ; Clinical Translational Science Division ; Clinical and Diagnostic Immunology Division
Oral Presentation (Complete): None selected
Division Awards (Complete):
Molecular Pathology Division Abstract Award : True
Personalized Medicine Division Abstract Award : True
I have read and understand the eligibility requirements for any awards I have selected. (required) : True

Additional Awards (Complete):
I wish to be considered for the NACCCA Travel Grant Award : True

Attached Files: No Files Attached
Status: Complete