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新技术与新方法

利用免疫磁性分离－PCR检测安祖花细菌性枯萎病病原菌

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Detection of Xanthomonas axonopodis pv. dieffenbachiae in Authurium andreanum by Immunomagnetic Separation-PCR

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摘要 根据地毯草黄单胞菌花叶万年青致病变种（*Xanthomonas axonopodis* pv. *dieffenbachiae*）的RAPD序列设计特异性引物，并对羧基化磁珠的结合性能进行检验，从而建立和优化了免疫磁性分离－PCR体系，对安祖花细菌性枯萎病进行早期检测。结果表明：1 mg磁珠对多克隆抗体最大吸附值为0.268 mg，进行免疫磁性捕获时免疫磁珠的最佳浓度是0.566 ~ 0.741 mg ?mL^{-1}。免疫磁性分离－PCR可以减少PCR反应中的抑制物质，对*X. axonopodis* pv. *dieffenbachiae*的检测灵敏度可以达到10 ~ 100 cfu ?mL^{-1}，比常规PCR检测灵敏至少100倍。

关键词： 安祖花 地毯草黄单胞菌花叶万年青致病变种 免疫磁性分离－PCR 最大吸附值 捕获率

Abstract: According to the RAPD of *Xanthomonas axonopodis* pv. *dieffenbachiae*, specific primers were designed, and binding ability of carboxyl magnetic beads were tested. The system of optimization of immunomagnetic separation-PCR (IMS-PCR) protocol for detecting the Bacterial Blight of *Anthurium* were establisted. The results showed that the saturate absorption of 1 mg carboxyl magnetic beads to the polyclonal antibodys is 0.268 mg. The optimal concentration of immunomagnetic beads (IMB) is 0.566－0.741 mg ?mL^{-1} when *X. axonopodis* pv. *dieffenbachiae* is captured. The detection sensitivity for *X. axonopodis, by IMS-PCR which can reduce the inhibitory substances in reaction, is 10－100 cfu ? mL^{-1}. It is 100 times more sensitive than ordinary PCR at least.* pv. *dieffenbachiae*

Keywords: Authurium andreanum, Xanthomonas axonopodis pv. dieffenbachiae, IMS-PCR, sensitivity, saturation absorption, capture rate

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