

真菌的多向耐药性ABC转运蛋白

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摘要 真菌的多向耐药性ABC转运蛋白(ATP-binding cassette transporters)是导致多药耐药性和抗真菌药物治疗效果明显下降的主要原因。文章对酿酒酵母(*Saccharomyces cerevisiae*)和主要致病真菌白色假丝酵母(*Candida albicans*)、新型隐球酵母(*Cryptococcus neoformans*)和烟曲霉(*Aspergillus fumigatus*)中的多向耐药性ABC转运蛋白的种类、药物外排机制以及基因表达调控网络的研究进展作一综述, 为深入了解真菌的多向耐药性机制以及探讨克服多向耐药性的策略和提高药效提供参考。

关键词: 酿酒酵母 致病真菌 多向耐药性 ABC转运蛋白

Abstract: Overexpression of pleiotropic drug resistance (PDR) efflux pumps of the ATP-binding cassette (ABC) transporter superfamily is the major cause of fungal multi-drug resistance and decreased efficacy of antifungal drugs. This review focused on recent progresses in understanding of the PDR efflux pumps of ABC transporter superfamily in *Saccharomyces cerevisiae* and the fungal pathogens *Candida albicans*, *Cryptococcus neoformans*, and *Aspergillus fumigatus*. The mechanisms underlying efflux pump-mediated drug resistance and the regulatory networks involved were discussed. Investigation of the PDR efflux pumps of ABC transporter superfamily and their impact on drug resistance may lead to strategies to overcome fungal multi-drug resistance and improve drug efficacy.

Keywords: *Saccharomyces cerevisiae*, fungal pathogens, pleiotropic drug resistance, ABC transporters

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