

Regulation and Role of Fungal Secondary Metabolites.

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Abstract

Fungi have the capability to produce a tremendous number of so-called secondary metabolites, which possess a multitude of functions, e.g., communication signals during coexistence with other microorganisms, virulence factors during pathogenic interactions with plants and animals, and in medical applications. Therefore, research on this topic has intensified significantly during the past 10 years and thus knowledge of regulatory mechanisms and the understanding of the role of secondary metabolites have drastically increased. This review aims to depict the complexity of all the regulatory elements involved in controlling the expression of secondary metabolite gene clusters, ranging from epigenetic control and signal transduction pathways to global and specific transcriptional regulators. Furthermore, we give a short overview on the role of secondary metabolites, focusing on the interaction with other microorganisms in the environment as well as on pathogenic relationships.

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