Special Issue

Bioactive Compounds and Chemical Analysis of Fruiting Bodies and Mycelial Cultures

Message from the Guest Editors

Biotechnological solutions for the acquisition of medicinal, health-promoting, and cosmetic substances occupy an important place in the global pharmaceutical, cosmetic and health-food industries. A significant share is related to the biotechnology of higher fungi, including medicinal species. An important research direction represents the endogenous production of bioactive compounds by biomass from mycelial cultures. Secondary metabolites produced by mycelial cultures representing various chemical groups are characterized by multidirectional biological activity, including antioxidant, immunostimulatory, antitumor, anti-inflammatory, and antimicrobial - including antiviral activity. Research allows us to determine the biosynthetic capacity of mycelium obtained in vitro. On the one hand, determining whether in vitro cultures retain the ability to synthesize similar metabolites found in fruiting bodies. On the other hand, answering the question of whether in vitro cultures can produce, under the influence of modified conditions, new compounds not present in fruiting bodies.

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