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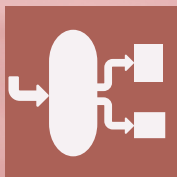


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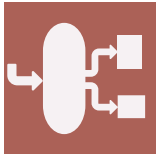
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Section

Biological Processes and Systems



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Prof. Dr. Krist V. Gernaey

Section Information

The Biological Systems section of the *Processes* journal is the ideal forum for the publication of significant original and high-quality research, as well as reviews, at the interface of engineering and biological systems. The scope of interest ranges from investigations of sub-cellular/microbial processes, to tissues and microbial communities, to organs and bioreactors. Both life science applications, including enzymology, modeling, and system biology, and industrial biotechnology contributions are of interest to this section. All manuscripts submitted for publication under this section will undergo the high-quality peer review process of the *Processes* journal and, if accepted, will be published rapidly online.

Selected Papers

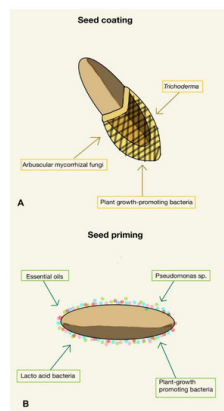
DOI:10.3390/pr10040655

Biocontrol Methods in Avoidance and Downsizing of Mycotoxin Contamination of Food Crops

Authors: *Manuela Zadavec, Ksenija Markov, Tina Lešić, Jadranka Frece, Danijela Petrović and Jelka Pleadin*



Abstract: By increasing the resistance of seeds against abiotic and biotic stress, the possibility of cereal mold contamination and hence the occurrence of secondary mold metabolites mycotoxins decreases. The use of biological methods of seed treatment represents a complementary strategy, which can be implemented as an environmental-friendlier approach to increase the agricultural sustainability. Whereas the use of resistant cultivars helps to reduce mold growth and mycotoxin contamination at the very beginning of the production chain, biological detoxification of cereals provides additional weapons against fungal pathogens in the later stage. Most efficient techniques can be selected and combined on an industrial scale to reduce losses and boost crop yields and agriculture sustainability, increasing at the same time food and feed safety. This paper strives to emphasize the possibility of implementation of biocontrol methods in the production of resistant seeds and the prevention and reduction in cereal mycotoxin contamination.



DOI:10.3390/pr10050924

Helical Foldamers and Stapled Peptides as New Modalities in Drug Discovery: Modulators of Protein-Protein Interactions

Authors: *Keisuke Tsuchiya, Takashi Kurohara, Kiyoshi Fukuhara, Takashi Misawa and Yosuke Demizu*



Abstract: A “foldamer” is an artificial oligomeric molecule with a regular secondary or tertiary structure consisting of various building blocks. A “stapled peptide” is a peptide with stabilized secondary structures, in particular, helical structures by intramolecular covalent side-chain cross-linking. Helical foldamers and stapled peptides are potential drug candidates that can target protein-protein interactions because they enable multipoint molecular recognition, which is difficult to achieve with low-molecular-weight compounds. This mini-review describes a variety of peptide-based foldamers and stapled peptides with a view to their applications in drug discovery, including our recent progress.

