Special Issue

Novel Drugs by Biotransformation—in Memory of the Late Scientists Frieder Schauer and Peter Grunwald

Message from the Guest Editors

Microbial enzymes transform numerous substances in a reaction-, region-, and stereospecific way and thus in many cases may meet the requirements of modern drug synthesis. Of particular practical value is the fact that they not only catalyze the reactions of their natural substrates but also convert other compounds. Biotechnological processes use whole cells and/or specific enzymes. Biosynthetic processes, which often require a cascade of individual enzyme reactions, are usually carried out with whole cells, whereas biotransformation reactions use either isolated enzymes or whole cells depending on the properties of the enzymes involved. When evaluating a process, the advantages and disadvantages of isolated enzymes and whole cells must be weighed against each other, though where possible, specific enzymes tend to be preferred so as to exclude side reactions catalyzed by cells. This Special Issue will provide an insight into strategies of biosynthesis and biotransformation of novel drugs. The latest proven enzyme-mediated routes, using single-step biotransformation or enzyme cascade synthesis, will be discussed.

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"Microorganism" merges the idea of the very small with the idea of the evolving reproducing organism is a unifying principle for the discipline of microbiology. Our journal recognizes the broadly diverse yet connected nature of microorganisms and provides an advanced publishing forum for original articles from scientists involved in high-quality basic and applied research on any prokaryotic or eukaryotic microorganism, and for research on the ecology, genomics and evolution of microbial communities as well as that exploring cultured microorganisms in the laboratory.

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