
AIMS AND SCOPE

The Journal provides a medium for the rapid publication of both full-length articles and short communications on novel and innovative aspects of biotechnology. The Journal will accept papers ranging from genetic or molecular biological positions to those covering biochemical, chemical or bioprocess engineering aspects as well as computer application of new software concepts, provided that in each case the material is directly relevant to biotechnological systems. Papers presenting information of a multi-disciplinary nature that would not be suitable for publication in a journal devoted to a single discipline, are particularly welcome. The following is an outline of the areas covered by the Journal:

Nucleic Acids / Molecular Biology: Novel contributions in the general area of Nucleic Acids/Molecular Biology will be considered. This includes studies for the physical and functional characterization of genomes, studies of the expression of genomic information in cellular and cell-free systems, the development and application of technologies for the detection of single molecules and molecular interactions (molecular recognition), the development and application of strategies towards the identification of biotechnologically interesting new compounds via chemical synthesis (combinatorial strategies in particular), molecular design and evolution, as well as molecular bioinformatics. The development of automated systems for the above mentioned fields may be of particular interest.

Physiology / Biochemistry: This covers biochemical and physiological studies of metabolism and enzymes as relevant to product formation including intermediary metabolism of micro-organisms, tissue culture cells and cell-free systems; bioregulatory investigations at the molecular level including transcription/translation control and growth/product-synthesis relationships; design and engineering of products by molecular strategies with emphasis on protein/enzyme engineering and modification; quality improvement of non-protein products; engineering of cellular modification and transport systems such as post-translational protein modifications as well as protein and metabolite secretion; novel (molecular) strategies of screening for new or modified products (e.g. pharmaceuticals, bioactive compounds, enzymes) including applications based on directed evolution and combinatorial strategies.

Biochemical Engineering / Bioprocess Engineering: This includes studies on transport phenomena, reaction kinetics, design of reactors, downstream operations and software applications as well as research on cellular biology and physiology in biochemical processes employing enzymes, microorganisms, mammalian cells, plant cells and tissue. Of special interest is the rational manipulation of reactions through metabolic engineering techniques, the design of specific biocatalysts, or specific reactor operations that lead to biomaterials with unique properties. The use of a quantitative framework for the description of the processes to enhance the understanding of the experimental data is encouraged.

Industrial Processes / New Products. Articles describing the design, simulation, experimental testing/validation and economic evaluation of novel processes using biotechnological approaches, their products or devices constitute the area of interest of this section. Papers dealing with biologically based process integration with clear rational approaches to design and evaluation are particularly welcome; similarly, products and devices should be interpreted in the broadest sense and could use or integrate different technologies, as long as the core technology and/or the design rationale are biologically or biochemically based. Nevertheless, simple incremental improvement of existing, mature products or processes will not be considered.

Medical Biotechnology. Manuscripts submitted for the *Medical Biotechnology* section are expected to put current progress in life sciences and life technologies into therapeutic perspective. Medical Biotechnology is covering pioneering activities related to molecular diagnostics and drug discovery, genetic and protein-based vaccines, gene therapy, tissue engineering, stem cell biology, cancer markers and therapeutics, drugs and drug targets for treatment of human pathologies, metabolic and infectious diseases and molecular characterization of viral, bacterial and parasitic infections.

Agro- and Food Biotechnology. Manuscripts in this section should focus on current or novel crop plants and domesticated animal species or contribute substantially to the improvement of their performance. Conservation and utilisation of biodiversity, development of tools contributing to marker assisted

breeding, improved transformation approaches, introduction of novel traits and contributions to unravel host-pathogen interactions to improve pest control are of particular interest. issues related to IPRs, nutritional aspects concerned by improved quantification assays and control measures for desirable or undesirable compounds and issues related to food safety should also be addressed in this section.