



BioMed Research International

Special Issue on  
**Bacteriocins: Research, New Development, and Applications**

# CALL FOR PAPERS

Many bacteria, both Gram-negative and Gram-positive, are able to produce one or more ribosomal peptides that provide protection against other microorganisms. These compounds known as bacteriocins, or bacteriocin-like inhibitory substances when not characterized, have generally a narrow spectrum of action against bacteria closely related to the producing strain. Bacteriocins play a critical role in mediating microbial population or community interactions and may confer an advantage in the competition for an ecological niche to the bacteriocin producer strains. On the other hand, the particular features of bacteriocins can be exploited in different fields involving human and animals.

Even if an increasing effort in the research of bacteriocins has been carried out and a wide number of bacteriocins have been characterized, many aspects of these natural compounds remain unknown. This special issue will be a meeting point for researchers whose studies are related to the new research, development, and applications of bacteriocins. Knowledge on bacteriocins must be thorough with particular regard to their potential use as food biopreservatives, in enhancing food safety and quality (with a reduction in the use of chemical preservatives), and in clinical applications for new therapeutic approaches (for example, some bacteriocins have the potential to be produced at the site of infection by probiotic bacteria). Bacteriocins should be further investigated with respect to their potential in animal health (substitution of antibiotics in animal feeds) and in water environments (use of bacteriocin producers in aquaculture). Additional capacity of these compounds has been proposed in the mediation quorum sensing and in a potential activity against tumor cells. For all the above considerations and for other possible futures applications, it remains a current need to isolate, identify, and characterize new bacteriocins also from bacteria so far poorly studied for this purpose.

Potential topics include, but are not limited to:

- ▶ Isolation and characterization of new bacteriocins
- ▶ Study of production and regulation of bacteriocins
- ▶ Role of bacteriocins in bacterial communication
- ▶ Bacteriocin applications in medical field: therapeutic agents, medical devices, etc.
- ▶ Use of bacteriocins and bacteriocin producer strains in food field: as natural preservatives, as starter cultures, in active food packaging, etc.
- ▶ Use of bacteriocins for livestock and aquaculture

Authors can submit their manuscripts via the Manuscript Tracking System at <http://mts.hindawi.com/submit/journals/bmri/microbiology/brda/>.

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