

Máster Universitario en Biotecnología

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I am Bachelor of Biological Sciences from 1974 and PhD of Biological Sciences from 1980. I am currently Professor of Microbiology at the Faculty of Science of the University of Granada (UGR). I am included in the research group BIO160 of the Andalusian Research Plan entitled "Study of antagonistic compounds produced by microorganisms", where I was leader research from 1997 to 2007.

Along my professional life I have characterized several antimicrobial compounds from bacterial sources, especially those known as bacteriocin-like substances, and particularly the enterocin AS-48. We have studied the basic and applied aspects of this enterocin with the support of funds provided through various research projects, many of which I have directed as responsible researcher. I have published more than 130 scientific articles, most of them indexed, received nearly 4.500 citations and led 13 doctoral theses. My research work has been rewarded with 6 incentives of research productivity (6 years each).

Nowadays I am responsible of the research line on AS-48 application as food biopreservative. I am also dedicated to the study of Enterococcus faecalis UGRA10 strain, an enterococcal strain AS-48 producer with a strong potential, for use as probiotic in humans and/or animals. These are being currently carried out through research contracts established with the company DMC Research (Alhendín, Granada) to which we have transferred the exploitation rights of AS-48 application in food.

The exact objectives of this investigation are:

- To scale at the pilot plant level the production and recovering of the bacteriocin.
- To apply AS-48 in several foods, alone or combined with other technological hurdles, to control spoiling and food-borne pathogenic bacteria.
- To study the AS-48 toxicity in animals.
- To study the in-vivo biosafety and probiotic properties of UGRA.
- To study the effect of diet supplementation with UGRA10 strain on livestock animals' health and other relevant aspects.

One additional, more recent research line treats on the microbial biodiversity. We are studying mainly two environs:

- Fermented foods, especially dairy food, carrying out metagenomic studies and also the isolation and characterization of lactic bacteria.
- Birds, to know the influence of microbiota in behaviors related to health, reproductive success, etc.

With respect to my Institutional responsibilities I have been Scientific Secretary of the Institute of Biotechnology, University of Granada, from 2008 to 2017. I am currently member of the External Scientific Expert Panel of ANECA (Academia Program) from 2009 and member of the Graduate Advisory Board of the International Graduate School of the UGR from 2009.