

Collaboration Research Proposal

Project Title: Development of food microorganism for the enrichment of functional component using agricultural products and characterization thereof

Project Description

In today's society, the food consumption habits, trends, and preferences of the consumer have changed drastically. Therefore, in order to meet these ever-changing consumer food demands, companies and producers are required to provide quick and efficient response to shifting food market preferences. Various food-related research subjects and specializations have been explored by the food research groups in Uruguay such as the development of new molecules with various applications from diverse origins. The food process technologies in Uruguay need continuous searching for niches in the global food market with competition and diversification. Therefore, the subject of collaboration project was planned for the development of Uruguayan microorganisms which have function to improve the quality of agricultural products of Uruguay and/or to produce various new ingredients, distinctive additives and functional compounds by fermentation.

Short Biographical Sketch of SNU Food research group:

Functional Food Materials and Fermentation Lab (FFMF) in Seoul National University has developed high value added safe and high-functional fermentation products using the bioconversion function of microorganisms. FFMF established the fundamental platform technology to manufacture materials that enhance the water solubility and bioavailability of antioxidant-based well-aging materials. These materials are used as a natural antioxidant material for functional foods and for personalized cosmetics. FFMF is continuing to develop industrial microbial resources for the production of high-performance enzymes and to build a pilot fermentation process system. Professor in charge the lab is Dr. Doman Kim. He received Ph.D. in Microbiology at Louisiana State University-Baton Rouge in 1992. Dr. Kim received several Excellent Research Awards from Korean Government and Scientific Societies from Korea and USA. Dr. Kim is a Member of American Society for Microbiology, American Chemical Society etc. Dr. Kim published over 230 research papers including 198 SCI(E) papers. He registered 67 Korean Patents, 3 US Patents, and 52 Patents are currently pending. Nine techniques were transferred to companies. Dr. Kim serves as the Editor of the Journal of Biotechnology and Bioprocess Engineering.

This collaboration research will allow us to:

- (i) To develop novel industrially applicable microorganisms originated from Uruguay.
- (ii) To share technological tools for evaluation of functional compounds in vitro and fermentation and following processes.
- (iii) To establish collaboration that is promising for technological transfer/ exchange of knowledge
- (iv) To exchange scientific ideas and to facilitate exchange of young researchers