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Functional ingredients from foods for their health properties

The current trends to improve human health through diet are taking place in several ways. Apart from the nutritional value provided by protein, carbohydrate and fat, for the growth and maintenance of the human body, there are many other components within foods providing physiological functions to keep a healthy body by preventing or ameliorating the symptoms of diseases. One of the most important physiological functions is the prevention of heart disease through the reduction in cholesterol absorption and blood pressure as well as acting as antioxidants especially during oxidative stress. Other physiological functions which offers health benefits would include immune modulatory effect, anticancer, anti-diabetes, anti-inflammatory properties etc. Most of these physiological functions are due to the bioactive compounds presents naturally or extracted then or added to foods. Other bioactive compounds could also be produced as a result of fermentation especially those after the hydrolysis of protein to give bioactive peptides. The addition of probiotic bacteria, such as L. acidophilus and B. bifidum, could also be considered as health promoting agents. These probiotics, together with prebiotics, have shown to have health benefits similar to that of the bioactive compounds in foods.

Biography

Ara Kanekanian gained his PhD from Reading University, UK in 1983. He has been in academia for over 25 years with main interest in protein chemistry and fermentation technology, including probiotics and factors affecting their growth and survival in dairy products. He has also been working in the food industry and undertook several consultancy and turnkey projects for food and dairy processing within Europe and the Middle East. He is a member of the publication committee of the International Journal of Dairy Technology and other scientific journals and has published several scientific and technical papers. His research activities include the development of hypoallergenic milk and dairy products, immune modulation and colostrum, micro- and nano-encapsulation of nutraceuticals. Currently, he has been participating in several European projects regarding bioactive compounds in food for their health benefits as antioxidants, antihypercholesterolemic, antihypertensive and anticarcinogenic agents. Research interest also covers the isolation and purification of α-lactalbumin, β-lactoglobulin and casinoglycomacropeptide from whey using ion-exchange for their use in baby milk formulation, improve certain functional properties of food systems and reduce dental erosion. Research collaboration has been successful which included partnership with other departments within the university such as Biomedical Sciences covering research on anti-inflammatory effects of bioactive components as well as wound healing using honey and other plant based ingredients. Outside the university, the collaboration included national and international institutions in research partnership with the School of Medicine, School Dentistry and the Department of Bioengineering Systems. He has been invited to many international conferences and presented his latest research findings. He has edited a book titled “Milk and Dairy Products as Functional Foods” commissioned by the Society of Dairy Technology - UK.

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