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## Phytases from Bifidobacteria for human nutrition

The use of phytases improves the mineral bioavailability of cereal-based products by removing phytate (InsP6), which is a common practice in animal nutrition. Furthermore, the generated products of hydrolysis (lower myo-inositol phosphates) may positively affect human health, specially the myo-inositol triphosphates (InsP3). In general, commercial phytases are produced employing filamentous fungi and at the moment, they are only used in animal feeding. The presence of phytase activity in *Bifidobacterium* strains and its potential use in food processing has been described. The results showed that the phytate-degrading *Bifidobacterium* strains and their phytases reduced the InsP6 content to a greater extent than the endogenous phytase during process of bread, infant cereals and/or fermented soy milk, without changing significantly the technological and sensorial quality of products. The phytate-degrading *Bifidobacterium* strains may be proper organisMS for the production of food-grade phytase and for their direct use in food manufacture. The fact that the phytase enzymes are produced by strains of bifidobacteria, which are GRAS/QPS (Generally Regarded as Safe/Qualified Presumption of Safety) microorganisMS, makes this strategy particularly suitable to reduce the content of InsP6 in products rich in phytates for human and animal consumption.

## Biography

C Monika Haros, graduated as a Bachelor of Chemistry from the School of Exact and Natural Sciences, University of Buenos Aires (UBA), Argentina in 1990. She obtained an MSc in Bromatology and Food Technology (1992); and an MSc in Biology Analysis (1997) from UBA. She is Ph.D in Chemistry (UBA-1999). From 1991-2003, she worked as university professor in the Organic Chemistry Department, Food Science and Technology Area of UBA. From 1991-1999 she was Research Assistant in the Cereals and Oilseeds Group, Department of Industrial Chemistry, UBA. Later, from 2000-2002 she worked in Spain as a visiting professor in the Cereal Group of the Institute of Agrochemistry and Food Technology (IATA) in Valencia. In 2003, she was a postdoc fellow at the Department of Food Microbiology, Institute of Animal Reproduction and Food Research (CENEXFOOD-EU), Polish Academy of Science, Olsztyn, Poland. From 2003-2004 she received an award for working in the Department of Chemical and Biological Engineering, Life Science Division, University of Chalmers, Gothenburg, Sweden. In 2005 she became an Associate Researcher of the Spanish Council for Scientific Research (CSIC) in the framework of a Ramon y Cajal Programme. Since 2008 she is a Senior Scientist at CSIC and continues her investigation in the Cereal Group, Department of Food Science of IATA. In recent years she has focused on: use of phytases from *Bifidobacterium* for increasing mineral availability of vegetable foods, utility of Andean crops for improving nutritional value and health benefits of bakery products, develop new cereal/pseudocereal wet milling process for obtaining starches and protein isolations with new nutritional and functional features.

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