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## Prebiotics/Probiotics interaction for colon health

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Prebiotics are the fermentable, non-digestible carbohydrates that stimulate the activity of beneficial bacteria (probiotics) in the digestive system. There are two prebiotics categories: Prebiotics fibers that are naturally occurred in whole grain, broccoli, asparagus, radish, cabbage, and others. and Prebiotics oligosaccharides such as Fracto-oligosaccharide (FOX), Galacto-oligosaccharides (GOS), Xylo-oligosaccharides (XOS), polydextrine , and others. These prebiotics oligosaccharides are added to foods for their health benefits and are labeled as food additives in the United States. These Prebiotics oligosaccharides are manufactured in pure forms enzymatically or extracted from plants. Probiotics are the beneficial bacteria in the

colon such as *Befidobacteria* and lactic acid bacteria. These probiotics bacteria assist in the maintenance of the natural balance of micro flora and reduce the effect of harmful and pathogenic bacteria in the digestive system, suggesting that these probiotics bacteria can prevent gastrointestinal tract from infection diseases and reduce colon inflammation. It is also, assumed that probiotics bacteria strengthen the immune system. Synbiotics are products that contain both prebiotics and probiotics. These symbiotic products have both non-digestible carbohydrates (prebiotics) and the good bacteria (probiotics). The impact of synbiotics on colon health will be highlighted in this presentation.

### Biography

Osama O Ibrahim is a highly experienced, principal research scientist with particular expertise in the field of microbiology, molecular biology, food safety, and bio-processing for both pharmaceutical and food ingredients. He is knowledgeable in microbial screening /culture improvement; molecular biology and fermentation research for antibiotics, enzymes, therapeutic proteins, organic acids, food flavors, biochemistry for metabolic pathways and enzymes kinetics, enzymes immobilization, bio-conversion, and analytical biochemistry. He was external research liaison for Kraft Foods with Universities for research projects related to molecular biology and microbial screening and holds three bioprocessing patents. In January 2005, he accepted an early retirement offer from Kraft Foods and in the same year he formed his own biotechnology company providing technical and marketing consultation for new start up biotechnology and food companies.

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