

EDITORIAL: Functional Food Products & Ingredients For Gut Health

GUEST EDITOR'S COMMENTARY

Awareness of the concepts such as healthy living and better nutrition are increasing among the customers worldwide. Functional foods are becoming more important because of increasing healthcare costs. Functional foods and ingredients targeting gut health constitute one of the largest and fastest growing sectors in attaining wellness through diet.



The human gut microbiota plays a crucial role in protection against disease and maintenance of gut function; especially for the host health, in general. The gut can be regarded as a bioreactor with the bacterial reactions, around 10^{14} bacteria, ten times more than total cells making up the human body that are present in our intestinal tract [1]. The health impact of dominant groups of gut bacteria has not been thoroughly studied yet, bifidobacteria and lactobacilli being the most important components.

Some type of food ingredients are used to develop nutritionally designed foods (e.g. incorporated to dairy foods) to promote health through gut microbial reactions [2-4]. These are:

Living microorganisms (Probiotics), nondigestible carbohydrates (dietary fiber and prebiotics) and bioactive plant secondary metabolites (e.g. phenolics). The combination of probiotic microorganisms and prebiotic carbohydrates is called as symbiotic food.

Functional food & ingredients have the potential to improve human health in specific intestinal disorders, prevention of colon cancer and coronary heart disease, treatment of inflammatory bowel disease and lactose intolerance, and prevention of diarrhea. The next generation of functional food ingredients targeting gastrointestinal health may have other associated health benefits including immune system stimulation; prevention and treatment of infections, and food allergies; and may even be used to prevent obesity [4, 5]. Improved resistance to pathogens offers the most promise for the development of efficacious probiotics and prebiotics.

Future trends may include the studies on the action mechanisms in gastrointestinal system, investigation of improved techniques for analysis of the gut microbiota, developing new food manufacturing biotechnologies such as micro-encapsulation, effects on diseases, infections and allergies, the stability - viability and safety of functional food ingredients [6].

Therefore knowledge is in high demand for the development of novel functional food ingredients and their influences on gastrointestinal health. In this special issue of *Journal of Nutritional Therapeutics*; aspects on intestinal microbiota & lymphoma, impact of aging on human microbiota, potential benefits of probiotics for preterm infants are reviewed by the authors and a probiotic microencapsulation research is presented.

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