

ABOUT THE TASK FORCE

A prebiotic is a food ingredient that selectively stimulates growth and/or the activity of microbial species inhabiting the host, and that confers health benefits to the host. Some prebiotics occur naturally in foods, such as chicory, onions, cereals, agave and milk. However, most foods contain only trace levels.

The Prebiotics Task Force aims to better understand the mechanisms behind prebiotic effects and their beneficial functions, and to advance their applications into a balanced diet. It is the task force's ambition to provide recommendations for beneficial prebiotics usage for various target groups.



WHAT'S NEW?

LATEST PUBLICATION

Rowland *et al.* **Gut Microbiota Functions: Metabolism of Nutrients and Other Food Components.** In this review, the authors examine microbial pathways associated with the metabolism of nutrients. They also describe methodologies that can be applied to study these metabolic pathways.

EVENTS

The Prebiotics and Probiotics Task Forces organised the scientific session 'How Do Prebiotics and Probiotics Work? – Mechanistic Insights Into Their Function' at the International Scientific Conference for Probiotics and Prebiotics (IPC) 2017.



Within the framework of the new activity on 'Short Chain Fatty Acids for Health', the Prebiotics Task Force will organise a workshop in fall 2018.

ACTIVITIES

Revealing the Mechanistic Role in Human Physiology and Beneficial Aspects of Short Chain Fatty Acid (SCFA) Production in the Gastro Intestinal Tract (GIT) – *New*

SCFA production from prebiotic consumption is considered as (part of) the mechanism by which prebiotics exert beneficial effects on gut health and metabolic function. Furthermore, SCFAs also exert positive physiological effects. However, SCFA production is often not considered as a

health benefit as such. This activity will deal with short chain fatty acid production linked to fermentation of prebiotic compounds. It is intended to evaluate the current scientific knowledge on SCFAs as a health benefit/biomarker by providing evidence of their beneficial action(s).

Understand the Relationship between the Molecular Structure and the Effects of Prebiotic Compounds on Microbiota and its Metabolites

Prebiotics bear the potential of modulating the host microbiota composition and activity. These compounds show a wide variability in term of structure but, so far, no clear conclusion regarding structure-function relationship has been drawn. This project is intended to be a first step in defining structure-function relations between prebiotics and effects for the host.

It should provide guidance to support the characterisation of prebiotic structures for future physiological effect studies. The activity is not restricted to the definition of prebiotics but generally considers fermentable carbohydrates. *In vitro* data of potential direct effects of these compounds on host cells are examined as well.

MEMBER COMPANIES

- Cargill
- Cosucra Groupe Warcoing
- Danone
- DSM
- DuPont Nutrition and Health
- Fresenius Kabi
- FrieslandCampina
- Mead Johnson Nutrition
- Mondelēz Europe
- Nestlé
- Nexira
- Roquette Group
- Sensus
- Südzucker Group
- Tereos

ACTIVITIES (CTD)

Exploring the Role of the Major Gut Microbiota Clusters on Nutritional and Functional Benefits of Nutrients and Non-Nutrients

The gut microbiota is an important variable to take into account when considering the management of obesity, inflammation and the metabolic syndrome. The aim of this activity is to collect and review existing data on different gut microbiota clusters in relation to their metabolic effects on selected nutrients and non-nutrients. A first paper has systematically collected and

reviewed existing data on the effects of gastrointestinal microbiota on the metabolism of nutrients and non-nutrients. A second paper has reviewed the microbial pathways associated with the metabolism and also reviewed methodologies that can be applied to study gut microbial pathways of metabolism.

In collaboration with the Functional Foods Task Force.

RECENT PUBLICATIONS

I. Rowland, G. R. Gibson, A. Heinken, K. Scott, J. Swann, I. Thiele, and K. M. Tuohy. **Gut Microbiota Functions: Metabolism of Nutrients and Other Food Components.** *European Journal of Nutrition* 2017. doi: 10.1007/s00394-017-1445-8.

K. A. Verbeke, A. R. Boobis, A. Chiodini, C. A. Edwards, A. Franck, M. Kleerebezem, A. Nauta, J. Raes, E. A. F. van Tol and K. M. Tuohy. **Towards Microbial Fermentation Metabolites as Markers for Health Benefits of Prebiotics.** *Nutrition Research Reviews* 2015; 28:42-66.

N. Binns. **Probiotics, Prebiotics and the Gut Microbiota.** *ILSI Europe Concise Monograph Series* 2013; 1-32.

M. Roberfroid, G. R. Gibson, L. Hoyles, A. L. McCartney, R. Rastall, I. Rowland, D. Wolvers, B. Watzl, H. Szajewska, B. Stahl, F. Guarner, F. Respondek, K. Whelan, V. Coxam, M. J. Davicco, L. Léotoing, Y. Wittrant, N. M. Delzenne, P. D. Cani, A. M. Neyrinck and A. Méheust. **Prebiotic Effects: Metabolic and Health Benefits.** *British Journal of Nutrition* 2010; 104(S2):1-63.

All publications commissioned by this task force are available on our website: www.ils.eu.

For more information on ILSI Europe's activities, don't forget to follow us on Twitter @ILSI_Europe and connect with us on LinkedIn.

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