

ABOUT THE TASK FORCE

Probiotic bacteria may be defined as ‘live microorganisms that, when administered in adequate amounts, confer a health benefit on the host’ (C. Hill *et al.* 2014). Consumers, the scientific community, regulators and the food industry show a sustained interest in these microorganisms and related functional effects.

The task force aims to provide scientific perspectives for the assessment of probiotic impact on health through direct effects on the host and / or modulation of the (intestinal) microbiota. A better comprehension of underlying mechanisms can support successful study design and contribute to the scientific health claim substantiation.



WHAT'S NEW?

LATEST PUBLICATIONS

Wells *et al.* **Homeostasis of the Gut Barrier and Potential Biomarkers.** In this review, the authors describe the role of mechanisms and interactions that support the maintenance of intestinal barrier function.

EVENTS

The Probiotics and Prebiotics 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.



The Probiotics, Prebiotics and Functional Foods Task Forces organised joint scientific sessions at the 18th World Congress of Food Science and Technology 2016.



ACTIVITIES

Prediction of individual responses to nutritional interventions – **UPCOMING ACTIVITY**

The task force is developing a New Activity Proposal (NAP). This new activity should investigate (new) approaches and combinations of technologies that support the prediction of individual responses to nutritional interventions. Such an evaluation should increase the

success rate of demonstrating functional effects in clinical trials by stratification of the target populations. It is intended to execute the activity in collaboration with other ILSI Europe task forces, for instance the Prebiotics and the Functional Foods Task Forces.

Mechanisms of Probiotic Action

Despite a lack of approved health claims for probiotics in human nutrition, there is general consensus in the probiotic scientific community that specific strains exert documented functional effects and that some health benefits can even be considered a general probiotic trait. This expert group was set up to investigate what is currently known about the mechanisms of probiotics action

(direct and indirect) in relation to demonstrated (clinical) benefits, to identify gaps in the current knowledge and provide suggestions for the future. Particular areas of interest include specificity of effects, physiological sites of action and learnings for future probiotic selection, studies and application.

MEMBER COMPANIES

- Arla Foods
- Chr. Hansen
- Danone
- DSM
- DuPont Nutrition and Health
- Mead Johnson Nutrition
- Merck
- Pfizer Consumer Healthcare
- Yakult Europe

ACTIVITIES (CTD)

Probiotics: Interplay with the Intestinal Barrier Function

– COMPLETED

Intestinal barrier function and microbiota composition and activity can be affected, for example, by acute infections, antibiotic use, stress or other dietary factors. However, treatment with appropriate probiotic strains could help to restore the intestinal barrier function. An expert group was set up to determine the state-of-the-art research in intestinal

barrier function and its role in health and disease and to investigate the potential impact of probiotics (direct and indirect) on intestinal barrier function. The goal is to crystallise existing consensus, if any, in treatment modalities, to harmonise the validation of markers, and to pinpoint most relevant areas for future research.

RECENT PUBLICATIONS

J. M. Wells, R.-J. Brummer, M. Derrien, T. T. MacDonald, F. Troost, P. D. Cani, V. Theodorou, J. Dekker, A. Méheust, W. M. de Vos, A. Mercenier, A. Nauta and C. L. Garcia-Rodenas. **Homeostasis of the Gut Barrier and Potential Biomarkers.** *American Journal of Physiology-Gastrointestinal and Liver Physiology* 2017; 312 (3):G171-G193.

P. A. Bron, M. Kleerebezem, R.-J. Brummer, P. D. Cani, A. Mercenier, T. T. MacDonald, C. L. Garcia Rodenas and J. M. Wells. **Can Probiotics Modulate Human Disease by Impacting Intestinal Barrier Function?** *British Journal of Nutrition* 2017; 117 (1):93-107.

J. König, J. Wells, P.D. Cani, C. L. Garcia-Rodenas, T. T. MacDonald, A. Mercenier, J. Whyte, F. Troost and R.-J. Brummer. **Human Intestinal Barrier Function in Health & Disease.** *Clinical and Translational Gastroenterology* 2016; 7:e196.

R. Albers, R. Bourdet-Sicard, D. Braun, P. C. Calder, U. Herz, C. Lambert, I. Lenoir-Wijnkoop, A. Méheust, A. Ouwehand, P. Pothirath, T. Sako, S. Salminen, A. Siemensma, H. van Loveren and U. Sack. **Monitoring Immune Modulation by Nutrition in the General Population: Identifying and Substantiating Effects on Human Health.** *British Journal of Nutrition* 2013; 110 (Suppl.2):S1-S30.

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

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](https://twitter.com/ILSI_Europe) and connect with us on [LinkedIn](https://www.linkedin.com/company/ils-europe).

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