

# Prebiotic Agents

## Specific Application of Prebiotic Agents and Prebiotic Foods

**Prebiotics** (Latin: „prae“ = „prior“, „bios“ = „life“)

are nutrients for bacteria of our microbiome and can be used to promote growth of certain desirable bacteria. Intestinal gas development often is an accompanying effect of bacterial metabolism, which may lead to flatulence. Therefore it is recommendable to consume prebiotic agents respectively food in small amounts in the beginning and gradually increase dosage. This will largely prevent adverse reactions and promote the growth of health-promoting microbiota.

*The table shows the prebiotic ingredients as well as foods, which contain a lot of these active agents and recommendations for health-promoting practice.*

| Prebiotic Agent   | Various Foods  | Effects   | Indications and Range of Application  |
|---|--|---|---|
| Galacto-Oligosaccharide of the raffinose group (raffinose, verbascose, stachyose) | Pulses (especially soy beans)  | Gut-Mucosa Protection (Growth of <i>Faecalibacterium prausnitzii</i> )<br><br>Growth of <i>bifido bacteria</i> and <i>lactobacilli</i>  | Deficits of <i>Akkermansia</i> and/or <i>Faecalibacterium</i> , <i>Bifidobacterium</i> <i>Lactobacilli</i>                                    |
| Galacto-Oligosaccharide   | Pumpkin plants, asparagus, cabbage, broccoli, beetroot, onion plants, light-coloured peaches, water melons                               | Gut-Mucosa Protection (Growth of <i>Faecalibacterium prausnitzii</i> ),<br><br>Growth of <i>bifido bacteria</i> and <i>Lactobacilli</i> | Minor mucosa inflammations after deficits of <i>Akkermansia</i> and/or <i>Faecalibacterium</i> , <i>Bifidobacterium</i> <i>Lactobacilli</i>   |
| Fructo-Oligosaccharide  | Sunchoke, asparagus, chicory, onions, leek, garlic endive, radicchio, artichoke, cabbage, broccoli, light-coloured peaches, water melons | Gut-Mucosa Protection (Growth of <i>Faecalibacterium prausnitzii</i> , <i>Akkermansia muciniphila</i> ),                                | Minor mucosa inflammations after deficits of <i>Akkermansia</i> and/or <i>Faecalibacterium</i> , <i>Bifidobacterium</i>                       |
| Polyfructane, e.g. Inulin   | Sunchoke, asparagus, chicory, black salsifis, artichokes, onions, leek, garlic, dandelion roots  | Growth of <i>bifido bacteria</i> and <i>lactobacilli</i><br>Inhibition of toxins <i>Cl. histolyticum</i> )                              | Minor mucosa inflammations after deficits of <i>Akkermansia</i> and/or <i>Faecalibacterium</i> , <i>Bifidobacterium</i> , <i>Lactobacilli</i> |
| Resistant Starch  | Cooked, cooled down potatoes, bread crust, stale bread, cereal flakes, steamed, pre-cooked cereals                                       | Promotes butyrate development   | Too low firmicutes share, dominating putrefactive flora   |

| Präbiotikum                 | Lebensmittelbeispiele  | Wirkungen  | Indikationen<br>Einsatzgebiete   |
|-----------------------------|--|--|--|
| Modified Starch             | Bread crust, extruder products (potato chips etc.), cereal flakes  | Promotes <i>bifidus bacteria</i> growth  | Too low firmicute share, dominating putrefactive flora<br>Bifidobacterium deficiency   |
| Psyllium Seed Husks         | Various psyllium seed preparation can be purchased from pharmacies (e.g. Agiolax, Agiocur, Prälasan and others.)               | Water-soluble, significant swelling properties, gel development, bile acids, cholesterol reduction, regulation of postprandial glucose and insulin response, promotes butyrate development | Habitual obstipation, RDS, Diarrhoea   |
| Betaglucan                  | Oats wholemeal products, beta-glucan barley  | Promotes growth of <i>bifido bacteria</i> , <i>lactobacilli</i> , <i>Roseburia</i> , supports butyrate synthesis, anti-inflammatory, reduces cholesterol                                   | Minor mucosa inflammations after insufficient firmicutes share, dominant putrefactive flora<br><i>Bifido bacteria</i> deficiency<br>Hypercholesterolemia |
| Starch-free Polysaccharides | Cereal bran  | Swelling, water-binding  | Uncomplicated diverticulosis   |
| Celluloses, Hemicelluloses  | All herbal foods except juices and extracts because of herbal structure substances. Plenty in wholemeal cereal, nuts and seeds | Water-binding promotes motility, reduction of passage time   | Irritable bowel syndrome, obstipation  |

**Please note:**

1. When drafting recommendations common serving sizes should be considered, e.g. some foods like for example garlic are normally only consumed in small amounts.

2. Mother's milk, which is an effective prebiotic agent for babies because of the high galacto-oligosaccharide content, is not listed in above table, as it is only relevant for babies but not for other consumers.

**Do you still have questions?**

**Please call us, we will gladly help you.**