Probiotics vs Prebiotics

Definition

Probiotics: Live microorganisms which, when administered in adequate amounts, confer a health benefit on the host.
Prebiotics: Non-digestible food components (mainly fibers) that selectively stimulate the growth and activity of beneficial bacteria in the gut.

Examples

Probiotics: Lactobacillus, Bifidobacterium, Saccharomyces boulardii (commonly found in yogurt, kefir, and dietary supplements).
Prebiotics: Inulin, fructooligosaccharides (FOS), galactooligosaccharides (GOS) (found in garlic, onions, bananas, oats, asparagus).

Function

Probiotics:
- Restore and maintain healthy intestinal microbiota.
- Reduce colonization by pathogenic organisms.
- Improve digestion, immunity, and may reduce risk of diarrhea.

Prebiotics:
- Serve as “food” for probiotics.
- Promote growth and activity of beneficial gut flora.
- Enhance colonic health by fermentation to short-chain fatty acids.

Summary Table

Feature	Probiotics	Prebiotics
Definition	Live microorganisms (beneficial bacteria/yeast)	Non-digestible dietary fibers that feed probiotics
Examples	Lactobacillus, Bifidobacterium, Saccharomyces	Inulin, FOS, GOS, dietary fibers in plants
Function	Direct health effects, colonization resistance	Nourish and support probiotic bacteria growth

Reference

Kliegman RM, St. Geme JW, Blum NJ, Shah SS, Tasker RC, Wilson KM. Nelson Textbook of Pediatrics, 21st Edition. Philadelphia, PA: Elsevier; 2020. Chapter: Gastroenterology – Probiotics and Prebiotics.