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Abstract for the Danish Microbiological Society, 10th November 2014

Modulation of the microbiome by prebiotic oligosaccharides

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Since the beginning of the last century from the early work of Elie Metchnikoff, it is believed that a synergistic interaction exist between the intestinal microbiota and their host. The microbiota of the human intestinal tract is complex with variable populations of bacteria who are either permanent gut residents (commensal bacteria) or transient inhabitants introduced from the environment. The commensal bacteria are believed to be important for human health due to actions such as protection against pathogens, immune regulation and nutrient processing, however the composition of the commensal bacteria is important to achieve these positive effects. Modulation of the intestinal microbiota towards a benign composition can be promoted by the consumption of indigestible carbohydrates and dietary fibers. Prebiotics are defined as “selectively fermented ingredients that cause specific changes in the composition and/or activity in the intestinal microbiota, which confer benefits upon host well-being and health.”

This presentation will focus on studies I have performed to examine i) the ability of prebiotics to affect early colonization of intestinal bacteria (animal model) and ii) the effect of prebiotics to modulate the intestinal microbiome towards a benign composition (*in vitro* model).