

The small intestinal microbiome – an ignored/undefined therapeutic target

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Though, in terms of surface area, it comprises by far the greatest part of the gastrointestinal tract, is the primary site for the digestion and absorption of nutrients and contains the most abundant immune tissue in the gut, the small intestine remains poorly understood in terms of its microbiome and interactions with the host. Given what we know of the anatomy, ultrastructure, physiology and immunology of the small intestine it should be the target for microbiota-modifying interventions that seek to impact on metabolic processes and host immune responses. Yet the composition of the small intestinal microbiome remains poorly defined. Our goals in this workshop are to present and discuss recent advances in the area including, but not confined to, the following:

1. The human small intestinal microbiome – what do we know?
 - a. Composition:
 - i. 16S studies
 - ii. Metagenomics
 - iii. Metabolomics
 - iv. Metatranscriptomics
 - b. Small intestinal microbiome-host interactions
 - i. At the epithelium – gut barrier impacts
 - ii. With the mucosa/gut-associated lymphoid system (MALT/GALT)
 - iii. Metabolic impacts
 - iv. Impacts on the ENS and CNS
 - c. Small intestinal bacterial overgrowth (SIBO)
 - i. Definition
 - ii. Diagnosis
 - iii. Clinical spectrum
 - iv. Management
2. The future
 - a. Better definition:
 - i. Sterile sampling
 - ii. Dynamic gas sampling
 - iii. Other novel applications
 - b. The small intestinal microbiome as a therapeutic target:
 - i. How can this be achieved?
 - ii. What are the best disease/disorder targets?
 - iii. Opportunities for bacteriotherapy