

# Anti-inflammatory effect of microbial consortia during the utilization of dietary polysaccharides

Thomson, Pamela

Medina, Daniel A.

Ortúzar, Verónica

Gotteland, Martín

Garrido, Daniel

© 2018 Elsevier Ltd The gut microbiome has a significant impact on host health, especially at the metabolic level. Dietary compounds arriving at the colon have a large influence on the composition of the gut microbiome. High fiber diets have been associated to health benefits that are mediated in great part by short chain fatty acids (SCFA). Gut microbial interactions are relevant for the utilization of complex carbohydrates in the gut microbiome. In this work we characterized the utilization of two dietary polysaccharides by combinations of representative adult gut microbes, and the impact of their activities on a cellular inflammation model. Paired combinations of *Bifidobacterium adolescentis*, *Bacteroides dorei*, *Lactobacillus plantarum*, *Escherichia coli* and *Clostridium symbiosum* were grown in inulin or xylan as carbon source. Their relative abundance, substrate consumption and major SCFAs produced were determined. Higher cell growth was observed during inulin consumption, and *B. adol*