FALL 2019

Biochemistry and Molecular Biology Brown Bag Series

Sumudu Rajakaruna

ES Ph.D. Student

"Bioactivity of Food Melanoidins is Mediated by Gut Microbiota"

Tuesday, October 29, 2019

11:00 AM

141 Medical Sciences Building

Lab: Oleg Paliy

Boonshoft School of Medicine
WRIGHT STATE UNIVERSITY

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http://www.med.wright.edu/bmb

Bioactivity of Food Melanoidins is Mediated by Gut Microbiota

Abstract

Melanoidins are an important component of the human diet (average consumption 10g/day), which escape gastrointestinal digestion and are fermented by the gut microbiota. In this paper melanoidins from different food sources (coffee, bread, beer, balsamic vinegar, sweet wine, biscuit, chocolate, and breakfast cereals) were submitted to an *in vitro* digestion and fermentation process, and their bioactivity was assessed. Some melanoidins were extensively used by gut microbes, increasing production of short chain fatty acids and favoring growth of beneficial genera *Bifidobacterium* and *Faecalibacterium*. Quantification of individual phenolic compounds after *in vitro* fermentation allowed their identification as microbial metabolites or phenolics released from the melanoidin backbone. Our results also showed that antioxidant capacity of melanoidins is affected by gut microbiota fermentation.

KEYWORDS: melanoidins, gut microbiota, short chain fatty acids, polyphenols, antioxidant capacity.