Review of: "Ruminococcus bromii enables the growth of proximal Bacteroides thetaiotaomicron by releasing glucose during starch degradation"

Zheng Lu[1]

1 Shantou University

Potential competing interests: The author(s) declared that no potential competing interests exist.

The study is about the cross-feeding between Rb and Bt. The significant finding is that Rb releases glucose upon degradation of resistant starch and soluble potato amylopectin, and the glucose released in the vicinity of Rb can be utilized by Bt. The paper is explained clearly, and the experimental data can support the conclusion. It is of great significance in understanding the community relationship of microorganisms. However, this paper failed to further study the molecular mechanism involved in "the effect of different nutritional conditions on different phenotypic responses (BT cell length)".

In this study, HPAEC-PAD analysis of the products of resistant potato starch degradation by Rb showed that glucose is the only major byproduct, but a previous study of the degradation of Hi-Maize resistant starch by Rb by nuclear magnetic resonance (NMR) spectroscopy detected minor amounts of maltose and maltotetraose in addition to glucose. So, the results are different to some degree, maybe it's because of the different starch or different analytical method, and this should be addressed.

Other comments:
Line 3 -- “through enhanced” could be “through/by enhancing”
Line 12 -- might consider changing from “glucose concentration in the solid media” to “glucose concentration of the solid media”
Line 13 -- “that starch degradation by Rb cross-feeds other bacteria in the surrounding region by releasing glucose.” It is not "starch degradation" that feeds other bacteria, but "degraded starch". The subject error leads to semantic error, can be changed to “that starch degradated by Rb...”
Line 24 -- “indicating that, like other bacteria, human gut bacteria undergo significant nutrient-dependent morphological adaptations.” What’s the other bacteria?
Line 191 -- In “utilized by Rb instead of glucose", the glucose is being used, passive rather than active.