

## **Evaluation of potential prebiotics: a review**

### **ABSTRACT**

Prebiotics are any undigested food ingredients that are selectively fermented and allow for specific changes in the gut microbiota, thus improving the hosts' health. In order to assess the potential of a food component to be considered as a prebiotic ingredient, several in vitro and in vivo experimentations need to be performed to provide scientific substantiation. In vitro studies are widely used because they are faster, cheaper, and more ethical compared to in vivo studies. However, in vitro studies faced difficulties in simulating the highly complex physiological and physiochemical events occurring in animal and human digestive tracts. Therefore, it is recommended that the results of in vitro studies be justified with in vivo experimentations to support their specific methodologies. Devised standard procedures for the evaluation and validation of prebiotic ingredients will boost confidence among the scientific community, approval of regulators, and acceptance from consumers on prebiotics and functional food science.

**Keyword:** Fermentation; Gut microbiota; In vitro; In vivo; Prebiotic