



In vitro gastric survival of commercially available probiotic strains and oral dosage forms

RomainCaillard NicolasLapointe

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Abstract

Although the intestinal microbial community is still incompletely understood, there is strong evidence of the benefits of using **probiotics** to address some medical states or conditions. As a result, the probiotics oral supplements market has exploded during the last few years. However, while their sensitivity to gastric juices, acidic pH and bile is well known, most of these oral forms would not guarantee any survival of the strains in such conditions. In this work, we have studied the resistance to simulated gastric juices of several commercially available probiotics products. These included sixteen strains and ten oral forms such as enteric/non-enteric capsules/tablets and microencapsulated strains.

Results demonstrated that all tested strains showed high sensitivity to acidic conditions and suggested that most of these **microorganisms** would not show any viability when immersed in the stomach at fasting. Most probiotics oral forms did not provide any protection to strains, unless these forms presented strong enteric protection. Consequently, the efficacy of non-enteric products to fully provide to the patient the benefits related to the consumption of probiotics supplement would be strongly questionable. This study underlines the chasm between the current opinion about probiotics protection needs and the products proposed by many companies in the dietary supplements area.

Graphical abstract

