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Application of phages for the inactivation of *Escherichia coli* in ham

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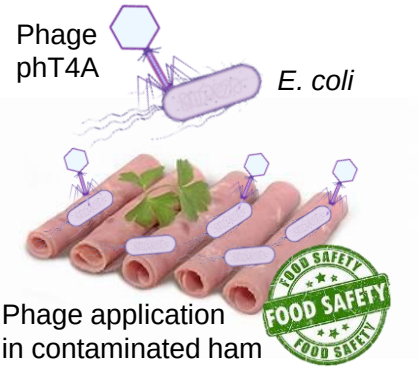
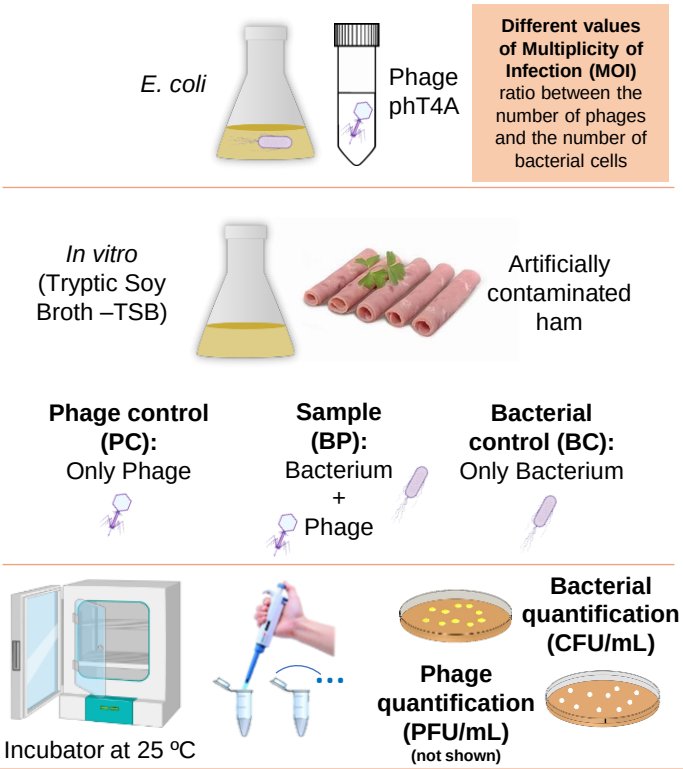
Introduction

- Foodborne illness is a serious health problem worldwide due to the increasing bacterial resistance to antibiotics;[1]
- *Escherichia coli* is one of the most important foodborne pathogens;[2]
- Bacteriophages or simply phages (viruses that only infect bacteria) have been recognized for their effectiveness in controlling bacterial pathogens in the food industry;[2]
- Phages exhibit important characteristics that make them promising antibacterial candidates, such as their ubiquity, high specificity against a target host, ability to self-replicate in the presence of the host, low toxicity and easy and economical isolation and production.[3]

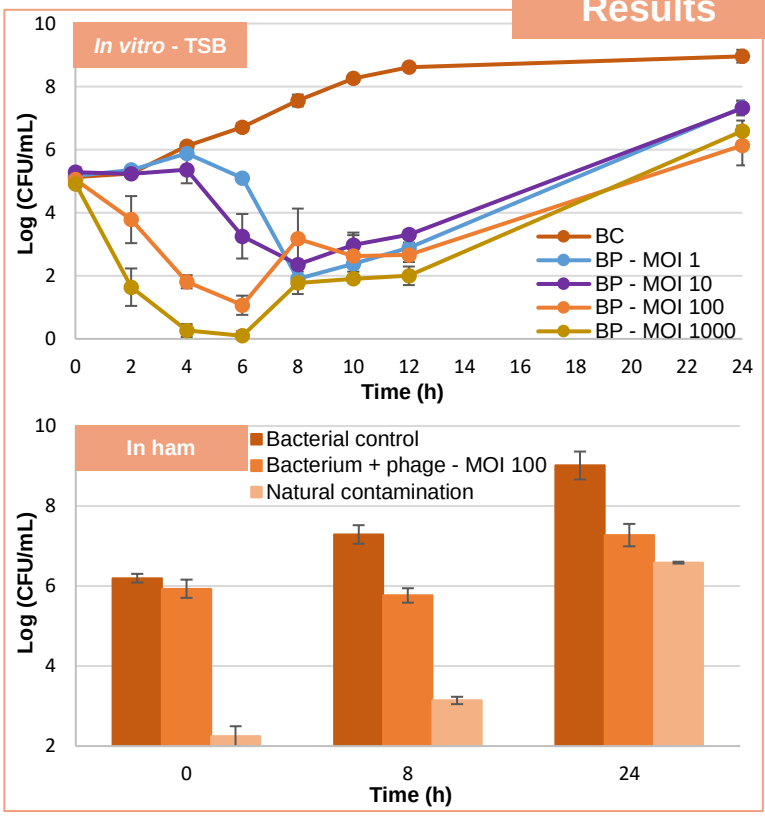
Our Aim



Methodology



Results



Discussion and conclusions

- The inactivation results obtained in the ham compared to those obtained *in vitro* can be explained by the greater complexity of the ham matrix compared with the liquid medium TSB;
- Even so, the results are very promising, and the use of phages can be considered as a sustainable approach to improve food safety, namely ham, and thus prevent the infectious diseases that can arise from the ingestion of contaminated food.

References: 1. Tang, K. L. *et al. Lancet Planet Health* 2017, 1, 316-327; **2**. O'Sullivan, L. *et al. Annual Review of Food Science and Technology* 2019, 10:151–72; **3.** Altamirano, F. L. G., & Barr, J. J. Clinical Microbiology Reviews 2019, 32 (2),1–25.

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