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The LMC Food Microbiology Network was established in 2003 in order to initiate new and intensify existing collaborations between researchers working on food microbiology within LMC. One of the means by which to achieve this is through a yearly meeting in May/June. The primary activities within the LMC Food Microbiology Network include collaborations between:

- Division of Seafood Research, National Food Institute (DTU Food), Technical University of Denmark (DTU) (Coordinator).
- Division of Microbiology and Risk Assessment, DTU Food.
- Center for Systems Microbiology, Institute for Systems Biology (DTU Systems Biology).
- Department of Veterinary Disease Biology, Faculty of Life Sciences (KU Life), University of Copenhagen (KU).
- Food Microbiology, Department of Food Science, KU Life.
- Molecular Microbial Ecology Group, Department of Biology, KU.
- Department of Biochemistry and Molecular Biology, University of Southern Denmark.
- Department of Food Science, University of Aarhus.

Impact of immobilisation on Virulence of *Salmonella* Typhimurium

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Consumer safety is of great concern in our society. It is imperative that infection of animals and contamination of food with pathogenic bacteria is prevented at both the farm level and in processing plants. The current incidence of food-borne infection shows that contamination cannot be completely avoided. Therefore it is important to understand the biology of the cells when bacteria are most likely to cause disease. Studies of virulence of Salmonella are usually based on bacteria grown in a planktonic (free swimming) state. However, bacteria ingested by the consumer are generally in an immobilised form, growing in micro-colonies. In the current study, we used the IFR Gel Cassette system to investigate the differences between immobilized and planktonic *S.* Typhimurium in terms of the virulence potential and stress response of the cells.

Salmonella Typhimurium 4/74 was grown in Gel Cassettes with and without a gelling agent (Pluronic F127) to generate either immobilised or planktonic cells. These conditions were used to generate transcriptomic data, which showed that flagella and SPI-1 virulence genes were down-regulated in the immobilised cells. However, when bacteria immobilised was also exposed to heat, the expression of flagella and virulence genes were up regulated. These results prompted us to investigate the virulence potential of the different growth conditions in an epithelial cell invasion model.