

## **9th Biotechnology Congress**

August 31-September 02, 2015 Orlando, Florida, USA

## LP501: A new cocktail of phages with potencial to reduce viable cells of *Listeria monocytogenes* in food

Vinicius Buccelli Ribeiro, Mariza Landgraf and Maria Teresa Destro University of Sao Paulo, Brazil

**B** hosts live and there are reports regarding isolation from different niches such as soil and foods. Since, studies are moving forward with regard to biotechnology area, different research projects are being performed focusing on the phage technology and its use by the food industry. This study aimed to evaluate a cocktail (LP501) of phages isolated in Brazil for its lytic potential against *Listeria monocytogenes*. Three bacteriophages (LP05, LP12 and LP20) were isolated from soil samples and all of them showed 100% lysis against a painel of 10 *L. monocytogenes* strains representing different serotypes of this pathogen. A mix of *L. monocytogenes* 1/2a and 4b was inoculated in soft cheeses (approximately 105 cfu/cm2) with the phage cocktail added thereafter (1×10° PFU/cm<sup>2</sup>). Samples were analyzed immediately, and then stored at 10°C for ten days. At 30 min post-infection, the cocktail reduced *L. monocytogenes* counts approximately 1.5 log, compared to controls without bacteriophage. The treatment produced a statistically significant decrease in the counts of viable cells (p<0.05) and in all assays performed, we observed a decrease of up to 4 log cycle of *L. monocytogenes*. This study will make available to the international community behavioral and molecular data regarding bacteriophages present in soil samples in Brazil. Furthermore, there is the possibility to apply this new cocktail of phages in different food products to combat *L. monocytogenes*.

## **Biography**

Vinicius Buccelli Ribeiro has completed his PhD from University of Sao Paulo (Brazil) and is now working as Post-doctoral student, in Food Microbiology and Bioinformatics areas, in University of Sao Paulo. He is Auditor and Consultant Independent for the Food Industry in Brazil. He has published several papers in reputed journals in the field of food microbiology and biotechnology and has been serving as an reviewer of several scientific journals.

viniciusbuccelli@yahoo.com.br

Notes: