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**Bacteriophages for prevention and treatment of Salmonella infection in poultry**

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Enteric Salmonella infection is a global problem both in human and animals and has been attributed to be the most important bacterial etiology for enteric infections worldwide with massive outbreaks occurring in recent years. Food animals are the primary reservoir for human non-typhoid Salmonella infections. Poultry products are considered one of the major sources of Salmonella infections. In many cases multi-resistant bacteria infecting humans have been directly linked to resistant organisms in animals. Existence of such pathogens is problematic because of possible transmission of antibiotic resistant bacteria from animals to humans through the food supply. The development of alternative anti-microbial remedies has become one of the highest priorities of modern medicine and biotechnology. One of such alternatives might be bacteriophages as a prospective biocontrol method against contaminations caused by antimicrobial resistant pathogens. Main goal of this work is development of bacteriophage-based product that can be used to control Salmonella contamination on farm level. For formulating polyvalent phage preparation 3 phages with wide, complementary, not-fully-overlapping host ranges were selected. Salmonella phages Sal.phi13, Sal.phi18 and vB\_Stm 21 were mixed in the proportion 1:1:1 and lytic activity and host specificity of each individual phage was compared with that of the phages cocktail. It was observed that the phage cocktail possessed broader host specificity within *S. typhimurium* serotype than each of three phages alone. It was found that the host specificity of Salmonella cocktail was noticeably wider than that of the individual Salmonella phages. Salmonella phage cocktail was effective against 65 out of 66 (98%) tested Salmonella strains in *in vitro* experiments.

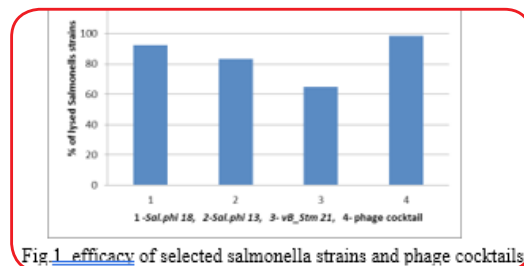


Fig 1 efficacy of selected salmonella strains and phage cocktails

**Biography**

T Gabisonia is the Head of the Laboratory of Applied Microbiology at the G. Eliava Institute of Bacteriophage, Microbiology and Virology, Georgia. He is author of more than 30 scientific articles and has participated in many local and international scientific projects.

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