



## Investigation of antimicrobial effect of natural water resource bacteriophages against *E.coli* O157:H7

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**Background and Aims:** Enterohemorrhagic Escherichia coli (EHEC) serogroup O157:H7 has come out as a worldwide threat to public health subsequently of its first recognition in a 1982 outbreak. This food-borne pathogen causes human infection with serious manifestations such as the hemorrhagic colitis and hemolytic uremic syndrome. latest reports showed that antibiotic resistant *E. coli* O157:H7 is reason of a growing threat. Bacteriophages (phages) are viruses that infect bacteria. Antibiotic Bactericidal bacteriophages may make available a natural, nontoxic, feasible strategy for controlling several human pathogens . bacteriophages work as a pressure for controlling bacterial populations by infecting and killing their specific host cell. In the present study, we isolated *E. coli* O157:H7 lytic phages from enviromental natural water resourses and evaluated their ability to lyse laboratory cultures of *E. coli* O157. We determined phage titration, PFU, MOI, morphology and bacterial host range under controlled conditions in the laboratory. Among 32 studied water samples 2 lytic phages were found. *E. coli* O157:H7 lytic phages may provide an economical tool for controlling *E. coli* O157:H7 in environmental settings without affecting food quality, health, or the viability of other normal flora. Considering the increase in bacterial drug resistance, and the relatively simply access to environmental resources, phage therapy might be considered as a approach to prevent treatment failure.

**Keywords:** Bacteriophage; *E. coli* O157:H7