

## عنوان مقاله:

Isolation of bacteriophages affecting Enterohemorrhagic Escherichia coli O157:H7

## محل انتشار:

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## خلاصه مقاله:

**Background and Aim:** Escherichia coli is an important pathogen and microorganism of the normal intestinal flora of humans and animals. One of the important serotypes of E. coli is O157: H7. Because of the excessive and arbitrary use of antibiotics, multiple drug resistance has increased against these organisms. The main problem in treating infections caused by E. coli is its dependence on the administration of a large number of common antibiotics and the resistance of some strains to antibiotics. Phage therapy refers to the therapeutic use of phages to eliminate bacterial infections. In the first step, it is necessary to separate and identify bacteriophages that affect the target bacteria. Therefore, the present study was performed to isolate the phage that was effective on enterohemorrhagic E. coli isolates. **Materials and Methods:** In this study, after collection of sewage samples, bacteriophages were isolated by filtration and enrichment in an enterohemorrhagic E. coli overnight culture. The presence of bacteriophage was detected by plaque observation in a double layer agar and confirmed by TEM electron microscopy. **Results & Conclusion:** The results of the observation with electron microscopy revealed the presence of bacteriophage with the appearance of the Cystoviridae, Myoviridae and Podoviridae families. Unfortunately, although the titration of phages and molecular study were not performed in the current study due to the lack of budget, we found antibacterial activity of isolated phages using plaque formation observation, and the presence of phages belonging to Cystoviridae, Myoviridae and Podoviridae families was confirmed by TEM microscopy. Therefore, the effective phage against O157: H7 was successfully identified, isolated, and purified.

## کلمات کلیدی:

Escherichia coli, bacteriophage, enterohaemorrhagic, treatment, باکتریوفاج، O157:H7، درمان

