

## عنوان مقاله:

Isolation of Streptomyces with antimicrobial effect on Gentamicin resistance Escherichia coli, from bakhtegan lake

## محل انتشار:

بیستمین کنگره بین المللی میکروب شناسی ایران (سال: 1398)

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## نویسندگان:

Mohamad masoud Eskandari - *MSc of Biotechnology, Department of Biology, Central Tehran Branch, Islamic Azad University, Tehran, Iran*

Behin Omid - *Assistance professor of Biology Department, Central Tehran Branch, Islamic Azad University, Tehran, Iran*

Mehdi Dehghani Zahedani - *Assistance professor of Plant peotection Department, Yazd Branch, Islamic Azad University, Yazd, Iran*

## خلاصه مقاله:

Introduction and objectives: Urinary tract infections are one of the most clinical bacterial infections. Escherichia coli is the organism that causes UTIs in most patients. Many drug resistances have been reported, unfortunately, drug resistance is increasing. Researchers are looking for alternative to replace common drug. One of alternatives are the metabolites produced from Streptomyces. Streptomyces are filamentous bacteria that isolation from soil and water. Some species of them can secretion antibiotics or other metabolites that kill or inhibit the growth of other microorganism. In this study we were screening for Streptomyces that had antimicrobial effect on Gentamycin resistance E. coli, from Bakhtaran Lake. Materials and Methods: For isolation of Streptomyces samples were tested by serial dilution method and culture in starch casein agar then incubated in 280c for 7 day. Gypsum and powder colonies were detected. For metabolite produced isolated bacteria were cultured in ISP2 broth in 28 0c and 150 rpm for 7 day. Then centrifuged and the same volume, ethyl acetate was added and incubated in 280c for 5h. Then liquid transferred to Separator funnel . The supernatant phase was transferred to distiller. This liquid was used for antimicrobial tests. Resistance to Gentamicin and other common antibiotics was studied from 50 selected patients. Then, the isolated metabolites from Streptomyces were examined by disc diffusion method on these bacteria. Finally, streptomyces were identified by 16srRNA. Results: 17 Streptomyces were isolated from Bakhtegan Lake. One of them has shown antimicrobial effect. The diameter of the non-growth zone was  $19\pm 1.24$ , Results from 16srRNA indicate that these bacteria is 99.9% similar to Streptomyces Streptomyces sp. strain 11K402. Conclusion: Streptomyces have high ability to produce antimicrobial metabolites. By purification and formulation these .metabolites, they can be used of them as an alternative to common antibiotics or antiagents

## کلمات کلیدی:

Streptomyces, Actinomycete, Water, Antibiotic, Escherichia coli , Gentamicin resistance

## لینک ثابت مقاله در پایگاه سیویلیکا:

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