

## عنوان مقاله:

Isolation and Screening of Spore-forming and Siderophore-producing Bacteria from the Wheat Rhizosphere

## محل انتشار:

مجله منابع ژنتیک, دوره 9, شماره 2 (سال: 1402)

تعداد صفحات اصل مقاله: 7

## نویسندگان:

Mahmood Maleki - *Department of Biotechnology, Institute of Science and High Technology and Environmental Sciences, Graduate University of Advanced Technology, Kerman, Iran*

Hajar Sabet - *Department of Biotechnology, Institute of Science and High Technology and Environmental Sciences, Graduate University of Advanced Technology, Kerman, Iran*

## خلاصه مقاله:

Salinity is one of the important stresses affecting the growth and yield of crops. Using rhizobacteria to reduce the harmful effects of salinity stress on plants is an effective and promising method. This research aims to isolate and screen siderophore-producing rhizobacteria that tolerate salt stress. After transferring the soil sample to the laboratory and applying heat treatment, rhizobacteria were cultured on nutrient agar. Then, the ability to produce siderophores by isolated rhizobacteria was measured using a liquid CAS assay. Consequently, the best siderophore-producing strains were selected and their ability to produce siderophores under ۱.۲% and ۱.۸% salinity stress conditions was investigated. The data obtained from the isolation of all siderophore-producing rhizobacteria were analyzed based on a completely randomized design (CRD) and the data collected from examining the ability to produce siderophore under salt stress were analyzed as a factorial based on a completely randomized design. Duncan's multiple range tests were used to compare the means. All data were analyzed using Excel and SAS software. The results showed that all isolated rhizobacteria strains could produce siderophores. K (۰.۹۳۳) and L (۰.۹۲۵) strains had the highest siderophore units, respectively. Additionally, strains F, H, L, and K produced more than ۹۴% siderophore units under ۱.۲% salt stress. The findings of this study showed that there is a high diversity in terms of siderophore production in Iranian native strains. Moreover, strains F, H, L, and K can potentially be considered plant growth-promoting rhizobacteria under salinity due to their ability to produce siderophores under salt stress.

## کلمات کلیدی:

CAS assay, Rhizobacteria, salt stress, Siderophores

## لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/1878026>

