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[1] 吴萍, 何庆元, 李正鹏, 等. 安徽省大豆根瘤菌表型多样性研究[J]. 大豆科学, 2011, 30(02): 219-223. [doi:10.11861/j.issn.1000-9841.2011.02.0219]
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摘要: 从安徽不同地区采集大豆根瘤, 经分离纯化共获得32个未知菌株, 对它们的营养利用、抗生素敏感性和耐逆性等112个生理生化指标进行了表型鉴定。结果表明: 不同地理来源甚至同一地理来源的菌株在碳和氮源利用、抗生素抗性和耐逆性等方面存在着较大的差异。在所有的表型性状中有57项性状在不同菌株间存在差异。其中93.8%的菌株能在含3.0% NaCl的培养基上生长, 78.1%的菌株能在含7.0% NaCl的培养基上生长。所有菌株在pH3的酸性条件下均不能生长, 在pH 12碱性条件下除AH09、AH24外均能生长; 在4℃处理下24 h 均能生长, 在60℃处理下24 h 均不能生长; 均能在含300 mg·L⁻¹ 赤霉素或磷霉素的培养基中生长, 但对链霉素耐受性差。聚类分析表明, 从表型分类上将安徽省大豆根瘤菌分为两大类群, 其中有29个菌株属于一个大类群, 具有较高的相似性。

Abstract: Thirty-two unknown strains were obtained after isolation and purification from soybean nodules which collected in different areas of Anhui province. One hundred and twelve physiological and biochemical indexes of their nutrient utilization, antibiotic sensitivity, stress tolerance and other traits were tested. The results showed that there were much differences in carbon utilization, antibiotic resistance and stress tolerance among the strains from different areas and even the same area. Fifty-seven traits of all tested characteristics had differences among strains. 93.8% strains could grow in the medium containing 3.0% NaCl and 78.1% strains grow in the 7.0% NaCl medium. None of the strains could grow under the condition of initial pH3, but all except AH09 and AH24 could grow at initial pH12. All the strains could survive after treated at 4℃ for 24 h, but all died at 60℃ for 24 h. All strains could grow in the medium containing 300 mg·L⁻¹ gibberellin or fosfomycin, but sensitive to streptomycin. Cluster analysis showed that soybean rhizobia of Anhui province were divided into two groups, 29 strains belonged to one group, and had high similarity.

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