

## عنوان مقاله:

Investigation of the effect of the Medium Composition on amylase production by native Thermophilic strain of Bacillus licheniformis isolated from Howz Soltan salt lake

## محل انتشار:

ششمین کنگره ملی تحقیقات راهبردی در شیمی و مهندسی شیمی با تاکید بر فناوری های بومی ایران (سال: 1398)

تعداد صفحات اصل مقاله: 8

## نویسنده:

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## خلاصه مقاله:

Thermophilic microorganisms are the main sources of valuable Thermostable hydrolytic enzymes hence they have very importance in different industries. In comparison with other amylolytic enzymes, application of alpha amylase in starch processing industries, fermentation and carbohydrate products is a great importance and they could also be substituted with chemical hydrolysis of starch in industries. Determination of optimal culture medium for halostable  $\alpha$ -amylase production by native strain Bacillus licheniformis was the aim of this study. A new medium was developed to induce high level of  $\alpha$ -amylase from Bacillus licheniformis. The strain of native strain Bacillus licheniformis was grown on the presence of different carbon, nitrogen and metal ions. The high level  $\alpha$ -amylase has been produced when potato starch and xylose were added to medium. Meat extract, as an organic nitrogen source, had affected on enzyme yield, while inorganic sources were not found to be effective. Calcium chloride increased activity of the produced enzyme; however, a slight activity was observed by increase of oxygen concentration. The optimum temperature of native strain Bacillus licheniformis for  $\alpha$ -amylase production was determined 39°C and the optimum pH was 6.8. Enzyme was stable at elevated temperature, and was unstable at varied pH values. Inhibitory effects of Zn and Cu were observed on  $\alpha$ -amylase production.

## کلمات کلیدی:

culture medium- Alpha Amylase- enzyme production

## لینک ثابت مقاله در پایگاه سیویلیکا:

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