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Title: Optimization of Fermentation Conditions of Stachyose Preparation Using Whey of Soy Protein Concentrate

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摘要: 利用酵母对大豆浓缩蛋白乳清进行发酵处理制备水苏糖。在确定最佳起始发酵液的糖度为31.8Brix后,对温度、pH、接种量、装液量等工艺条件进行了单因素试验及正交试验,结果表明最佳发酵条件为:温度32℃,pH5.5,接种量8%,在此发酵条件下利用酵母对大豆浓缩蛋白乳清进行发酵处理48 h,水苏糖的纯度达到了90%,保留率为68%。

Abstract: In this paper, we have studied the preparation of stachyose using yeast fermenting the whey of soy protein concentrate. The initial fermentation concentration of whey was 31.8Brix, the fermentation conditions including pH, temperature, inoculum, amount of broth in flask were also studied, according to the results of single factors experiments and orthogonal design, the optimal conditions of fermentation were 32℃, pH 5.5, inoculum 8%. Under optimized fermentation conditions, the purity of stachyose reached 90%, and its retention rate was 68% after 48 h fermentation.

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