

酶解法提取胡芦巴种子中薯蓣皂苷元的工艺研究

Technology for extracting diosgenin from seeds of *Trigonella foenum-graecum* through enzymatic hydrolysis

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作者	单位
张黎明	天津科技大学食品科学与生物工程学院, 天津 300222
张露亿	天津科技大学食品科学与生物工程学院, 天津 300222
杜连祥	天津科技大学食品科学与生物工程学院, 天津 300222

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中文摘要:

研究了酶解结合水浸提法从脱脂胡芦巴种子中提取薯蓣皂苷元的工艺。以薯蓣皂苷元的提取率为指标, 优化了该法制备薯蓣皂苷元的工艺条件, 得到以下结论: 与水浸提法相比, 采用酶解法有利于提高皂苷元的提取率; 确定料液比为1:14, 纤维素酶(每克原料10U, pH值4.6, 45℃)酶解6 h为最佳工艺条件。在此基础上考察了酶解结合水浸提法对皂苷元提取率的影响, 发现酶解后升温至90~100℃, 保温水浸提70 min, 可使薯蓣皂苷元的提取率由83.8%提高到92.9%。

英文摘要:

A technology for extracting diosgenin from fenugreek seeds was studied by using enzymatic hydrolysis and water extraction methods. To take the extraction ratio of diosgenin as an index, the optimal enzymolysis conditions for improving the yield of diosgenin were investigated. The conclusion can be drawn as follows: compared with the simple water extraction methods, the enzyme treatment was beneficial to increasing yield of diosgenin; and the optimum enzymolysis parameters are: adding 14 times volume of water as much as that of sample and adding cellulase 10U per gram degreased fenugreek seed, hydrolyzing for 6 h at 45℃(pH 4.6). The further water-extracting results indicate that the extraction ratio of diosgenin could be increased by 9.1%, when the powdered fenugreek seed was extracted for 70 min at 90~100℃ after being enzyme-hydrolyzed.

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服务热线: 010-65929451 传真: 010-65929451 邮编: 100026 Email: tcsae@tcsae.org

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