URN etd-0407109-183713-1090
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Statistics This thesis had been viewed 40 times. Download 24 times.
Department
Year 2006
Semester 2
Degree Master
Type of Document Master's Thesis
Language zh-TW.Big5 Chinese
Title Study the Cultivation Conditions of Beauveria amorpha for the production of exo-polysaccharides with Submerged Culture
Date of Defense 0000-00-00
Page Count 70

Keyword
submerged culture
fungus
Beauveria amorpha
polysaccharide

Abstract
Beauveria amorpha is an entomogenous fungus noteworthy for its various bioactivities. The influence of medium and cultural conditions on polysaccharides production was investigated in shake flask culture. The optimal temperatures for both mycelia biomass and EPS production was 26℃, and corresponding optimal initial pHs were found to be 8 and 5, respectively. The suitable carbon and nitrogen compositions of culture medium for the EPS production were sucrose and yeast extract powder, respectively. The highest EPS production (0.477 ± 0.047 mg/ mL) was achieved in a medium of 75 g/L sucrose, 5 g/L yeast extract powder at 26℃, and an initial pH 5.0 in shake flask culture. Under the suggested culture conditions, the maximum concentration of EPS was 0.746 ± 0.038 mg/ mL in a 5-L stirred-tank fermenter.

The macrophage cells (Raw264.7) can be stimulated by exo-polysaccharide isolated from the fermentation broth to secrete cytokines such as TNF-α, IL-1β, and IL-6. The results also indicated that the various degree of responsible strength from the macrophage was stimulated by the exo-polysaccharide form the different fermented medium.
Advisory Committee Chang, Chun-Sheng - advisor

Files etd-0407109-183713-1090-001.pdf

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Date of Submission 2007-07-31