

Evaluation of hydrolyzing activity of endoglucanase enzyme present in waste of beer fermentation broth

강민경, Waleed Ahmad Khattak, 이은지, 강호경,
Mazhar-ul-Islam, 박중곤*
경북대학교
(parkjk@knu.ac.kr*)

Rapid depletion of primary energy resources (fossil fuels) and environmental hazards associated with their extensive use has necessitated an urgent search for alternative energy sources to furnish the present day and future demands. Waste from beer fermentation broth (WBFB) is a valuable and cheap feedstock for various bioproducts due to the presence of high amounts of carbon, nitrogen, secondary starch source, enzymes and yeast cells. Our previous studies have reported successful bio-ethanol production from WBFB. Besides ethanol production we guessed some valuable enzymes in the WBFB. The current study was undertaken to investigate the hydrolyzing activity of enzymes present in WBFB. Endoglucanase an important hydrolyzing enzyme was found in the WBFB. The enzyme has the capability to convert the cellulose into fermentable sugars. The activity of endoglucanase was determined by the method of reducing sugars formed by enzymatic hydrolysis of CMC. The results show significant hydrolyzing activity for endoglucanase, thus enhancing further the worth of WBFB.