Extraction and Purification of Alkali-soluble glucan Produced from *Saccharomyces cerevisiae* JUL3 Using Molasses and Corn steep Liquor and Measurement of Anti-complementary Activity

김영환, 강성우[1], 김동오[2], 장효일[2], 윤철원[2], 백현동[3], 강창원[3], 김승욱*
고려대학교 화공생명공학과; [1]고려대학교 공학기술연구소;
[2]고려대학교 생명공학원; [3]건국대학교 동물생명과학대학
(kimsw@korea.ac.kr*)

Molasses and cone steep liquor have been used extensively as a medium source for commercial production of various bioproducts. These media were used as cheaper carbon and nitrogen sources for alkali-soluble glucan production by *Saccharomyces cerevisiae* JUL3. Glucans are usually grouped into several fractions. The alkali-soluble β-glucan fraction consists of a β-(1,3)-linked backbone containing 3% β-(1,6)-linkages, and is responsible for structural integrity of the cell wall. These compounds show a variety of biological activities by stimulation of the immune system. For the production of alkali-soluble glucan, the optimization of culture media (molasses and corn steep liquor) was performed by response surface methodology (RSM). The cell wall fraction was prepared by alkali extraction. The alkali-soluble glucan was purified by DEAE ion-exchange chromatography, Concanavalin-A chromatography, and freeze-drying. Finally, we tested anti-complementary activity of the alkali-soluble glucan.