

Krill Oil Extraction using Supercritical Carbon Dioxide and Ethanol

황광일, 강병희, 이윤우*
서울대학교
(ywlee@snu.ac.kr*)

The extraction of phospholipids and ω -3 poly unsaturated fatty acids from Antarctic krill was performed with supercritical carbon dioxide and ethanol. Antarctic krill contains a lot of phospholipids combined with ω -3 poly unsaturated fatty acids, which is called PL-PUFAs in short. Absorbed into human body very fast, PL-PUFAs can perform many beneficial physiological functions. Thus it was tried to isolate PL-PUFAs in high purity by extraction processes.

Several types of extraction processes, such as two-step supercritical fluid extraction, soxhlet extraction and combined process, were tried using supercritical carbon dioxide and ethanol. In addition, Supercritical Anti-solvent System (SAS) was adopted to increase the content of PL-PUFAs in the extracted oil.

The results of each experiment were compared. And it was tried to figure out the best way of extraction and the optimum conditions for the extraction process.