ABSTRAK

Liposom merupakan salah satu produk nanoteknologi yang sedang dikembangkan untuk meningkatkan efektivitas dan mengurangi efek samping obat. Sebagai pembawa obat, kini telah dikembangkan liposom EPC-TEL 2,5, yang mengandung fosfatidilkolin kuning telur (egg yolk phosphatidyl choline = EPC) dan TEL 2,5 mol%. Belum banyak penelitian tentang stabilitas liposom yang mengandung TEL ini. Pengukuran diameter, salah satu parameter stabilitas liposom, selama ini dilakukan menggunakan particle sizer, yang harganya mahal dan tidak selalu tersedia. Alternatif yang sedang dikembangkan adalah menggunakan program komputer Image pro Express. Penelitian ini membandingkan diameter liposom EPC-TEL 2,5 hasil sonikasi, yang diukur dengan program Image pro Express, sebelum dan sesudah paparan larutan CaCl2 150 mOsmol pH 5 selama penyimpanan 90 hari pada suhu 4oC. Berdasarkan penelitian, terdapat perbedaan bermakna dengan p = 0.001 antara diameter liposom EPC-TEL 2,5 hasil sonikasi sebelum dan sesudah paparan larutan CaCl2 150 mOsmol pH 5 selama penyimpanan 90 hari.

*Kata Kunci: liposom, EPC-TEL 2,5, diameter, $CaCl_2$ 150 mOsmol pH 5*

ABSTRACT

Liposome is a nanotechnology products which is being currently developed to improve the effectiveness and reduce the side effect of a drug. Presently, liposome EPC-TEL 2.5, which contains egg yolk phosphatidylcholine (EPC) and tetra-ether lipid (TEL) 2.5 mol%, has been developed to act out as a drug carrier. These days, researches on TEL containing liposome are still rare. Today, diameter measurement, one of the liposome stability parameter, is still performed by using particle sizer, which are expensive and not always available. One alternative that has been being developed is the application of Image pro Express computer program. This research compares the diameter of a sonicated liposome EPC-TEL 2.5, which measured using Image pro Express, before and after exposure to CaCl2 150 mOsmol pH 5 solution for 90 days at 4oC. Based on the research, there is statistically significant difference (p = 0.001) in diameter of sonicated liposome EPC-TEL 2.5, before and after exposure to CaCl2 solution (150 mOsmol at the pH of 5) in a 90 days incubation.

*Keywords: liposome, EPC-TEL 2.5, diameter, $CaCl_2$ 150 mOsmol pH 5*