Phospholipids play an important physiological role being components of biologically active membranes of animals and humans nerve cells. Identification of phospholipids while they are being separated through high performance liquid chromatography method is usually carried out
by absorption in the ultraviolet region of the spectrum or refractometrically. Phospholipids can be subjected to separating both in native form, and in the form of derivatives. Unmodified phospholipids can be detected by absorption at a wavelength of 205 nm. The conditions of separation of sunflower phospholipids are defined owing to the method of high performance liquid chromatography (HPLC) with detection in UV range, and the method of phosphatidylcholine, phosphatidylethanolamine and phosphatidyl inositol determination through quantitative test have been developed. It was done under normal phase mode and according to external standards and the order of their release. Phospholipid composition of sunflower lecithin has been identified, and phospholipid fatty acid composition through the method of tandem mass spectrometry has been determined. The presence of antioxidant α-tocopherol has been determined in liposomes composition, which manifests a condition for maintaining stability of liposomal substance. Membrane-protecting effect of α-tocopherol is associated with its participation in arrangement of the membrane structure through direct interaction of its side isodental chain with polyunsaturated fatty acids of phospholipids, which leads to denser packaging of mitochondrial membranes and the rise of increased resistance to lipid peroxygenation process effect.

**Key words**: lecithin, sunflower phospholipids, fatty acids, liposomes

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