ABSTRACT

α-Tocopherol is the principal membrane antioxidant in mammalian cells, although antioxidant is not the only mechanism of this vitamin. Many studies consider erytrocyte α-tocopherol levels to be more suitable to assess the tocopherol status of organism than its plasma levels. This thesis presents erytrocyte membranes α-tocopherol HPLC-UV analysis with diferential ultracentrigation and solid phase extraction sample pretreatment. Red cell samples were ultracentrifuged (288 000 × g, 3 minutes, 4 °C) in the presence of butylated hydroxytoluene (BHT), D-mannitol, HEPES and $CaCl_2$. Then α-tocopherol was extracted from erytrocyte membranes by solid phase extraction with n-hexane in the presence of ascorbic acid and tocopherol acetate internal standard. The extract was dissolved in methanol and separated on the monolithic column Chromolith Performance RP-18e (100 × 4.6 mm) using a 100% methanol as the mobile phase. The absorbance of α-tocopherol was measured at 295 nm wavelength.