ABSTRACT

In the theoretical part, there is briefly described the problematic of skin in the connection with transdermal permeability of substances. This part is followed by a general summary about transdermal permeability testing. Further on there were described the basic features of methylparaben and folic acid as substances used for permeability tests.

Experimental part of the diploma thesis describes the testing conditions for *in vitro* testing of permeability of methylparaben and folic acid from the TRIS buffer, the TRIS buffer with propylene glycol (PG) (3:2), isopropyl myristate (IPM) and isopropyl myristate (IPM) with parafin oil (PO) (2:3) through the full thickness pig ear skin. Measured values of normalized fluxes of folic acid J_{KLn} were as follows: from TRIS buffer: 1,00 ± 0,47, RSD 46,5%; from TRIS buffer with PG: 0,28 ± 0,11, RSD 40,1%; from IPM: 0,86 ± 0,72, RSD 83,4%; from IPM and PO: 2,08 ± 3,91, RSD 188,2%. The following average ratios of folic acid normalized fluxes and methylparaben normalized fluxes J_{KLn}/J_{MPn} from separate donors (and their standard devations and relative standard deviations) were obtained: from TRIS buffer: 0,98 ± 0,46, RSD 46,3%; from TRIS buffer with PG: 0,18 ± 0,09, RSD 52,2%; from IPM: 0,78 ± 0,77, RSD 98,9%; from IPM and PO: 1,76 ± 2,86, RSD 162,4%.

The conclusion that methylparaben is not a suitable marker for the evaluation of the transdermal permeability of folic acid from the specified donor media was derived from these results.

Key words: Transdermal application of drugs, methylparaben, folic acid