

## **Abstract**

The theoretical section gives a brief overview of anatomy, physiology and function of the skin, transdermal formulations and options for increasing transdermal absorption of drugs. The main part of the chapter is focused on cyclosporine includes updated information published on knowledge of the human immune system, and immunosuppressants.

Experimental work presents the results of in vitro permeation experiments on pig skin. Donor and acceptor phase was in most experiments consisting propylene glycol and Tris-buffer pH 7.1 at a 1:1 ratio. Only a few experiments have been used as the donor phase of 10% dispersion of CyA in isopropylmyristate. Permeant determination was performed by HPLC with UV detection at 220nm.

As a donor samples were used in the supersaturated system without CyA Enhancer, then a 5% addition of DMI or arlasolve, pyrrolidone or transcutol, or 1% transkarbam 12. All enhancers in the used concentrations increased a depot formation in the skin, transkarbam 12 in the lowest concentration.

For transdermal in vitro permeation experiments CyA appears to be administered in more lipophilic donor phase. The ideal length of the permeation experiments, it appears time 15 hours.