

PharmDr. Martin Šíma

Asymmetrically substituted ureas as a skin permeation enhancers

ABSTRACT:

Transkarbam 12 (5-(dodecyloxycarbonyl)pentylammonium-5-(dodecyloxycarbonyl)pentylcarbamate, T12) is a highly effective skin permeation enhancer. In this rigorous thesis, T12 analogs with urea function group replacing the ester one were synthesised, and evaluated *in vitro* as skin permeation enhancers on excised porcine skin, using theophiline as a model drug. The results were expressed by an enhancing ratio and compared with biological activity of T12 and its analogs from previous studies (alkane, ketone, amide, carbamate, and carbonate). Similarly to analogs from previous studies, there was a significant decrease in the enhancing potency. The results thus show that the ester group in the molecule of T12 is essential for its extraordinary effect.