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Characterization and regulation of the expression of drug transporters in human skin

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Most identified drug transporters belong to ATP-binding cassette (ABC) and solute carrier (SLC) families. It has been recently recognized that like drug metabolizing enzymes, some of drug transporters play an important role in pharmacokinetics and drug exposure and may be involved in clinically relevant drug-drug interactions for systemic drugs. However very little is known about the role of drug transporters in human skin in the disposition of topically applied drugs. Expression profile of SLC and ABC transporters included in the regulatory guidelines as the most likely clinical sources of drug interactions was characterized in *ex vivo* human skin using TaqMan real-time RT-PCR. Moreover, the effect of rifampicin treatment and solar simulator irradiation on the expression of drug transporters in human skin was investigated as well as the localization of the drug transporters within the different layers of human skin. SLC and ABC transporters have a very specific expression profile in human skin compared to liver and kidney. In addition, expression of ABCC1 (MRP1) and SLC47A1/2 (MATE1 and MATE2) is shown for the first time in human skin. The role of drug transporters in drug absorption in human skin will be presented and discussed.

Biography

Hanan Osman Ponchet has completed her PhD from University of Burgundy (France) and Post-doctoral studies from University Hospital of Geneva (Switzerland) and National Institute of Agronomy Research (France). She is currently Metabolism Manager in the Department of Drug Metabolism and Pharmacokinetics at Galderma, a global dermatology company. She has more than 15 years of experience in DMPK and has published more than 30 research publications and patents, and has given invited oral presentations at several different scientific conferences.

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