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## MLC as an effective tool in the prediction of human intestinal absorption

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Estimation of human intestinal absorption is very important especially for orally administered pharmaceutical compounds with poor solubility. Therefore in pre-formulation studies the extent of drug absorption must be determined for new drug entities (NDE). The use of animals has been the most abundant method used in pre-formulation studies for determination of pharmacokinetics, especially, the rate and extent of intestinal absorption of pharmaceutical compounds. In this work the use of biodetergent based micellization with a form of chromatography known as micellar liquid chromatography (MLC) has been successful in the determination of human intestinal absorption. Bile salts were used as a mobile phase in the MLC chromatographic method to provide an environment more closely simulating the human intestinal environment. In this method intestinal absorption was successfully predicted by the use of a group of model compounds through measurement and calculation of the partition coefficient,  $P_{mw}$ . A series of model drugs were prepared in the corresponding mobile phase concentration and injected into the chromatographic system with capacity factors obtained by analysis of the retention data recorded for the model drugs used. Experimentally determined partition coefficients were used alongside other molecular descriptors in the modeling of human intestinal absorption (% HIA) using multiple linear regression. The obtained model confirmed the ability of MLC to predict human intestinal absorption (% HIA) (R2=0.86 and R2Pred.=0.75).

## Biography

D S Shokry has achieved her first degree in Pharmacy in 2009 from Ain Shams University and has completed her Master's degree in Pharmaceutical Analytical Chemistry from Cairo University in 2013. She is currently working towards her PhD as a Member of Dr. L Waters group for finding alternatives to animal testing at Huddersfield University. She has worked as a Teaching Assistant and as an Assistant Lecturer in the Analytical Chemistry department at the Future University, Egypt. She has published three papers in reputed journals and presented her work as oral/poster presentations at five conferences.

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