

电穿孔下分子型药物透皮扩散的一类数学模型

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针对电穿孔可致使皮肤产生水性新通道的现象,在Fick扩散律和快-慢响应双通道假设下,给出了分子型药物经皮渗透过程的一类数学模型。经计算机模拟,发现其特征与实验数据高度一致。最后简要地讨论了此模型的优缺点和适用性等。

A KIND OF MATHEMATICAL MODEL OF TRANSDERMAL PERMEATION OF MOLECULAR DRUG THROUGH ELECTROPORATION

A kind of mathematical model of transdermal diffusion of molecular drug through aqueous pores caused by electroporation is given. The model consists of Fick's diffusion law with quick and slow two responses separately. By computer simulation, it is found that the characteristic is highly consistent with that of a lot of experiment data. Finally, advantages and disadvantages, as concerned with application of the model are discussed briefly.

关键词

电脉冲穿孔(Electroporation); 透皮扩散(Transdermal diffusion); 数学模型(Mathematical model); 分子型药物(Molecular drug)