



## Transdermal Drug Delivery Systems

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### Message from the Guest Editors

Dear Colleagues,

The skin permeation rate of drugs is generally slow. Early works on Transdermal Delivery Systems (TDS) have mostly focused on enhancing the drug permeability through the stratum corneum. At the peak of TDS, membrane-controlled/diffusion-controlled matrix patches were developed. At present, drug-in-adhesive has become more common. Initially, hydrophobic silicone or acrylic pressure-sensitive adhesives were used for earlier patches. Recent development employs technology allowing inclusion of sodium salts and hydrochlorides, and even much water in the hydrophobic patches. At the same time, there is a growing interest in skin-penetration enhancing methods using external energy, such as iontophoresis, electroporation, phonophoresis and thermal perforation. Microneedles and needleless injection have gained considerable advancement as well. Indeed, the merging of pharmaceutical formulations and medical devices has become the springboard for TDS research. This special issue will provide an overview on the current advances in transdermal delivery for low-molecular-weight and mid-to-high molecular drugs as well.

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