

Special Issue

Pre-clinical Pharmacology and Pharmacokinetics in Oral Drug Delivery

Message from the Guest Editors

Oral drug delivery, while being the patient-preferred route of delivery, is challenging because of chemical (pH and enzymes) and physical (mucus and epithelia) barriers. A number of strategies have been investigated in order to overcome these barriers, such as modifying drugs to improve stability, the use of permeation enhancers to improve intestinal absorption, and nanoparticles and novel drug delivery systems to improve overall bioavailability. Although current preclinical assessment is heavily dependent on rodent models, there is a need to develop novel in vitro and ex vivo models that better predict human in vivo pharmacokinetics, such as intestinal organoid and microfluidic devices. This Special Issue will focus on novel approaches to improve the oral bioavailability of drugs as well as strategies to increase the intestinal permeability of drugs. Novel pre-clinical models of the intestine that can improve the in vitro in vivo correlation (IVIVC) are of particular interest in this Special Issue, as are physiologically-based pharmacokinetic (PBPK) models of the intestine or oral drug delivery in preclinical species.

Guest Editors

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