

Special Issue

Novel Devices for the Oral Delivery of Macromolecules

Message from the Guest Editors

It is challenging to deliver macromolecules (e.g., proteins, peptides, antibodies, and oligonucleotides) orally due to the delivery barriers and microenvironmental challenges encountered along the gastrointestinal tract. In the last few years, novel medical devices have been developed which are capable of overcoming these barriers and delivering a wide range of molecules in different organs, all the way from the mouth to the colon. Microneedle-based pills, nanostraws, microjets, hydrogels and intestinal patches are some of the device-based solutions that researchers have designed to enable the oral dosing of macromolecules. These alternative delivery methods have the potential to revolutionize many treatments by increasing patient adherence and efficacy while reducing pain and other side effects. This Special Issue aims to capture the most recent advances to overcome the oral drug delivery barriers of the gastrointestinal tract. We invite reviews and research articles from clinical, academic, and industry settings on “Novel Devices for the Oral Delivery of Macromolecules.”

Guest Editors

Dr. Ester Caffarel-Salvador

1. Department of Regenerative Medicine, LEO Pharma, Cambridge, MA, USA

2. Institute for Medical Engineering and Science, Massachusetts Institute of Technology, Cambridge, MA 02139, USA

Prof. Dr. Jinyao Liu

Institute of Molecular Medicine, Shanghai Jiao Tong University, Shanghai, China

Deadline for manuscript submissions

closed (20 February 2022)



Pharmaceutics

an Open Access Journal
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Impact Factor 5.5
CiteScore 10.0
Indexed in PubMed



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Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
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Prof. Dr. Patrick J. Sinko
Department of Pharmaceutics, Ernest Mario School of Pharmacy,
Rutgers University, Piscataway, NJ 08854, USA

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