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Title:	Lung-on-chip: Its current and future perspective on pharmaceutical and biomedical applications
Authors:	Reddy, Yeddula Nikhileshwar (/jspui/browse?type=author&value=Reddy%2C+Yeddula+Nikhileshwar)
Keywords:	pharmaceutical and biomedical applications Lung-on-chip
Issue Date:	2022
Publisher:	Elsevier
Citation:	Journal of Drug Delivery Science and Technology, 78(1), 103930.
Abstract:	Organ-on-a-chip is a three-dimensional microfluidic system that simulates the cellular structure and biological milieu of an organ, that seemed to be constructed and studied substantially in the last decade. Microchips can be configured to suit disease states in a variety of organs, including the lung. When contrasted to traditional in vitro models like monolayer cell lineages, lung-on-a-chip models lay out a pragmatic portrayal of disease pathophysiology and pharmaceuticals' mode of action, and this is especially more prevailing in connection with the COVID-19 pandemic. Animal models have typically been used in pharmaceutical drug screening to assess pharmacological and toxicological reactions to a new entity. These adaptations, on the other hand, do not precisely represent biological reactions in humans. Present and prospective uses of the lung-on-a-chip model in the pulmonary system are highlighted in this overview. In addition, the constraints of existing in vitro systems for respiratory disease simulation and therapeutic discovery would be emphasized. Attributes of lung-on-a-chip transformative features in biomedical applications will be addressed to illustrate the relevance of this lung-on-chip model for medical science.
Description:	Only IISER Mohali authors are available in the record.
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