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강연제목: 동물대체시험을 위한 오가노이드 및 장기칩 기술 Organoids and Organ-on-a-Chip Technologies as Alternatives to Animal Testing

Abstract

With the enactment of the FDA Modernization Act 2.0, it has become possible to evaluate the safety and efficacy of new drugs using alternative testing methods without relying on animal experiments. As ethical concerns and the scientific limitations of animal models become increasingly apparent, the importance of human-relevant biomimetic platforms continues to grow. Among the most promising technologies are organoids and organ-on-a-chip systems. Organoids are self-organizing three-dimensional cell cultures that mimic the structure and function of real organs, while organ-on-a-chip devices use microfluidics to replicate physiological environments accurately. These technologies are gaining attention as next-generation alternatives to animal testing. This work discusses the advantages and applications of organoid and organ-on-a-chip technologies.

Brief Biosketch

- 2025 – 현재: 동국대학교 의과대학 의공학교실, 박사후 연구원
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- 2016 – 2018: 계명대학교 의과대학 의학과, 석사과정
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Research interests

- Organoids (or spheroids) for drug screening
- Organ-on-chip fabrication and application
- Microfluidic system