

# **Application of human pluripotent stem cell-derived lung organoids**

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Animal models have been widely used for drug efficacy/toxicity testing and disease modeling. However, the use of animal models has limitations in accurately predicting drug efficacy/toxicity due to the physiological differences between animal models and humans. In addition, as the regulation on the use of laboratory animals according to the 3R principle (replacement, reduction, improvement) has been strengthened, the need to develop a new alternative model is increasing.

Organoids, called mini-organs, are tissue-specific three-dimensional cell clusters composed of different cell types that can mimic tissue-specific functions and have recently emerged as alternative models.

Today, I will introduce the establishment and application of human pluripotent stem cell-derived lung organoids.