Controlled Gas Exchange in Whole Lung Bioreactors

**OCR Number:** OCR 7058

**Description:**

- A bioreactor system for whole rat lungs that controls dissolved gas levels (Fig. 1A-B). The system is able to quantify and predict the gas exchange within the bioreactor using a lumped parameter model (Fig. 1C, 2A-B).
- This system enables the maintenance of alveolar levels (100 mmHg) of dissolved oxygen for the duration of lung culture.
- The mathematical model enables non-invasive and real-time estimation of cell number and the proliferative state of lung tissue simply through dissolved oxygen measurements.


![Diagram](image)

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