Anivance ai

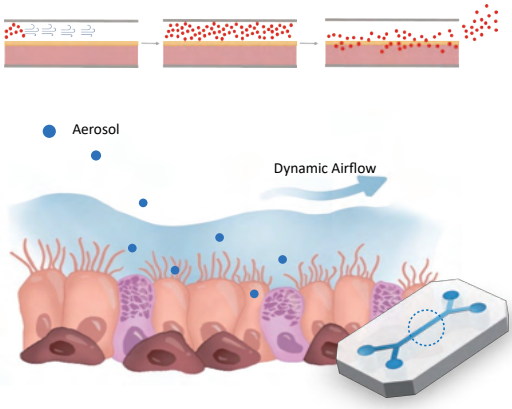
Aeromimic ADS-1™ Delivery System

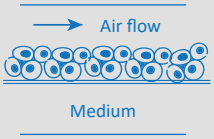
Accerlarate Respiratory and Inhaled Nanoparticle Delivery Research

Advanced Aerosol Delivery for Inhaled Drugs

The Aeromimic ADS-1™ Delivery System enables precise aerosol delivery to Lung-on-chip cultivated tissues. Supporting both Air/Liquid interface and aerosol exposure testing, it simulates respiratory functions, allowing for accurate testing of a wide range of inhalable treatments.

The system enables clean and reliable testing across a wide range of inhalable therapies, including liposomes, nanoparticles, and airborne pathogens. It delivers reproducible data on drug deposition, absorption, and clearance, providing researchers with valuable insights to optimize inhalation therapies and accelerate drug development for respiratory diseases.





Air/Liquid Interface

Simulating respiratory conditions with dynamic airflow

Low Nebulization volume

Testing with small quantities of drugs, reducing costs

Single-use components

Ensuring a uncontaminated testing environment

Aeromimic ADS-1™ Delivery System

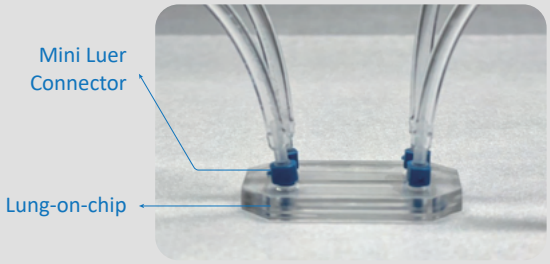
Inhalation System enables precise exposure of lung-on-chip to inhaled drugs, liposomes, and nanoparticles.

LungChip Capacity	8 chips
Particle Size	2 - 4 µm
Exposure Volume	≥ 200 µL
Flow Rate	0 - 40 mL/min
Exposure Duration	0 - 6 hr

Patent: US Patent No. US11732230B2

Lung-on-chip Models

Our system supports a range of established Lung-on-chip models, including **single and multi-cell co-culture models**: All components are **single-use** to prevent contamination and ensure the experimental precision.



Models including:

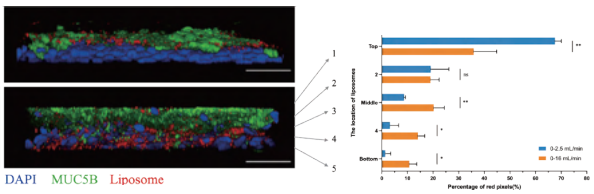
Tissue Model
- Bronchial Tissue
- Alveolar-Vascular

Disease Model
- COPD
- Cystic Fibrosis
- Idiopathic Pulmonary Fibrosis

Integrated Aeromimic ADS-1™ with Lung-on-Chip for Inhaled Drug Delivery

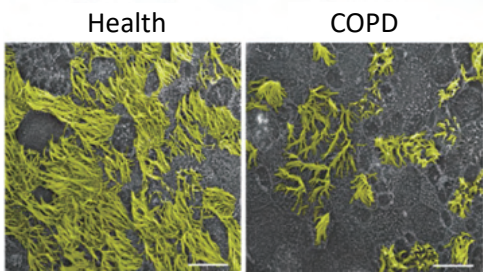
Z-axis liposome pentration of 3D Bronchial Tissue

Our innovative system replicates human inhalation and liposome delivery processes, providing z-axis resolution of translocation between the mucus layer, the cell layer, and even the air-to-blood layer



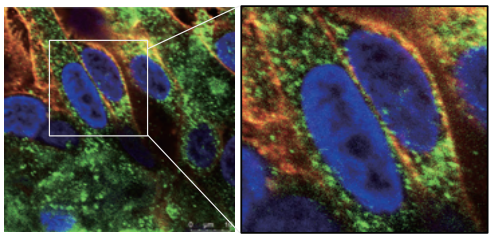
Cilia Response in COPD Drug Testing

This case examines drug impact on cilia function in a COPD model. Under COPD conditions, the platform monitors changes in cilia beating frequency, coordination, and mucus transport efficiency. Drug interactions reveal improved cilia activity, aiding mucus clearance and respiratory function.



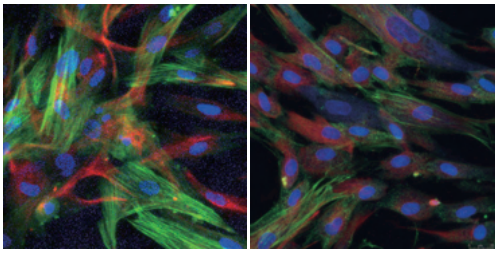
CFTR Targeting in Cystic Fibrosis

Following small molecule drug treatment on the CF model, CFTR protein migration to the cell membrane is observed and confirmed by WGA staining. This localization serves as a marker to evaluate therapeutic efficacy, enhancing chloride ion transport and cellular function.



Reduced Fibrosis Marker α-SMA in IPF Treatment

Utilizing the platform to assess an antifibrotic agent's efficacy in Idiopathic Pulmonary Fibrosis shows a significant reduction in α-SMA, a primary fibrosis marker, underscoring its therapeutic potential.



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