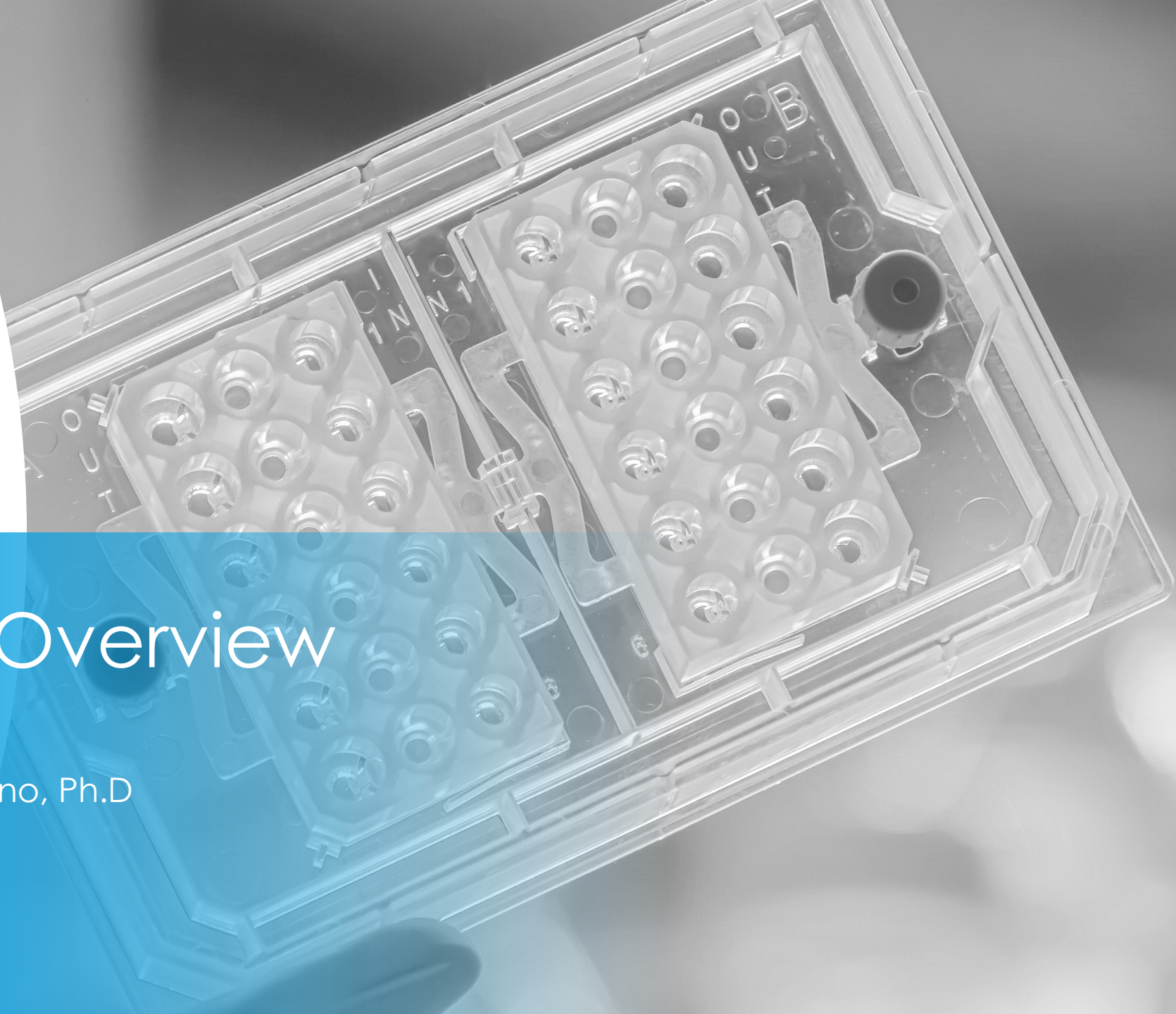


Alveolix
In-vitro models inspired by nature

AXTechnology: Overview

Presentation by Pauline Zamprogno, Ph.D

pauline.zamprogno@alveolix.com



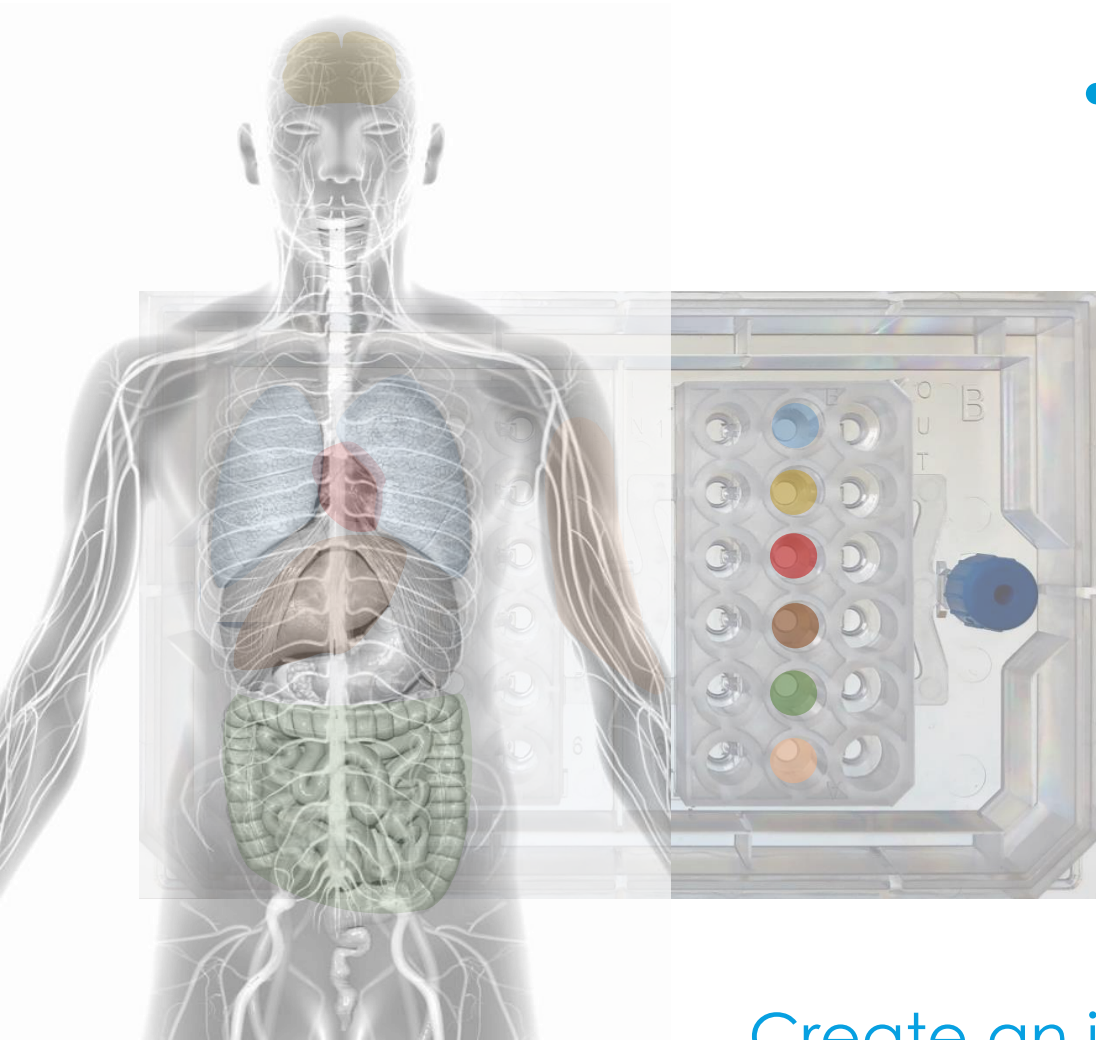
SWISS INNOCAMPUS in Biel Engineering and Production Site



SITEM in Bern Biology and Research Site



Organs-on-Chip technology



AXLung-on-chip



AXGut-on-chip



AXKidney-on-chip



AXBladder-on-chip



Create an in-vivo like environment

..and more to come!



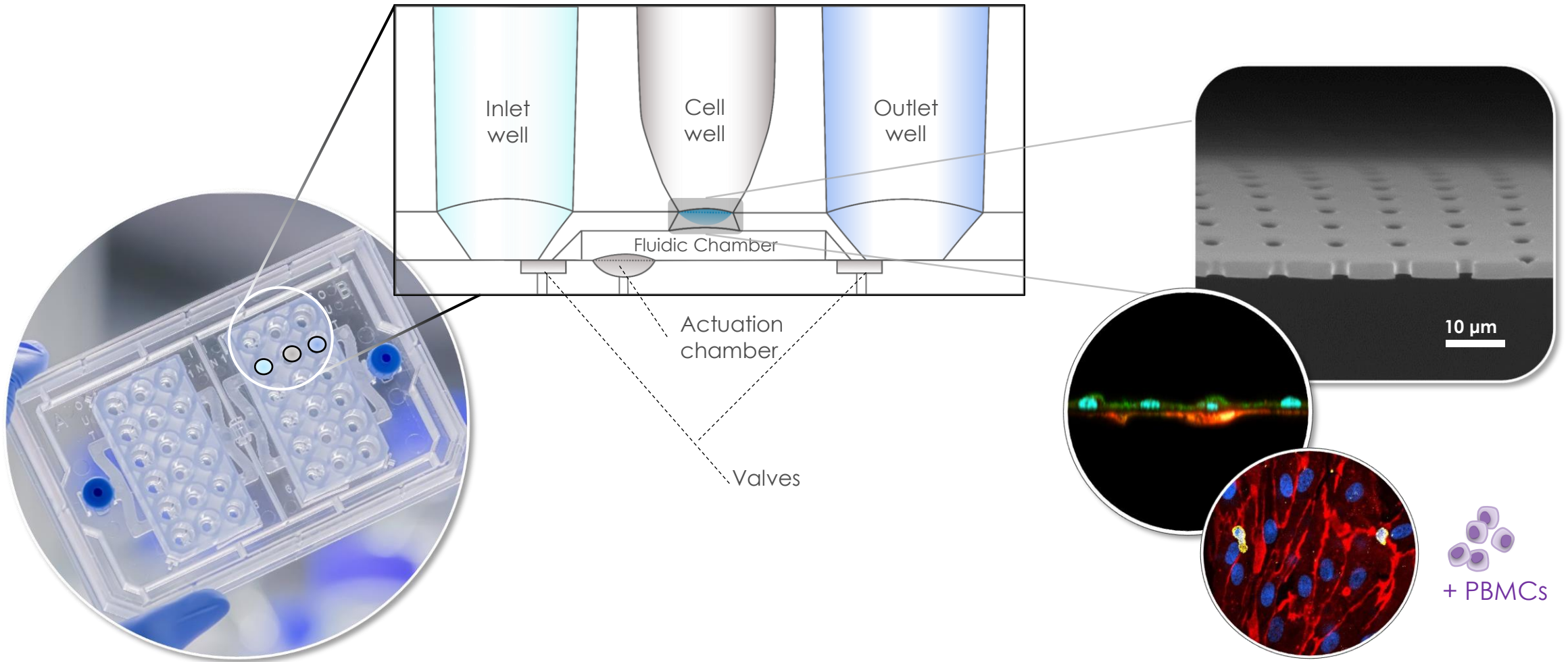
AXBarrier-on-Chip System - Features



- ◇ Uni- or Bidirectional membrane movement
Create any motion pattern of your choice
- 🕒 Physiological and Pathophysiological stretch levels
Create physiological motion or simulate traumas / injuries
- 📈 Frequency adjustments
Speed up or slow down the motion to target the desired stimuli
- 🕒 Active and dormant time periods
Tune the organ motion to account for day and night activity

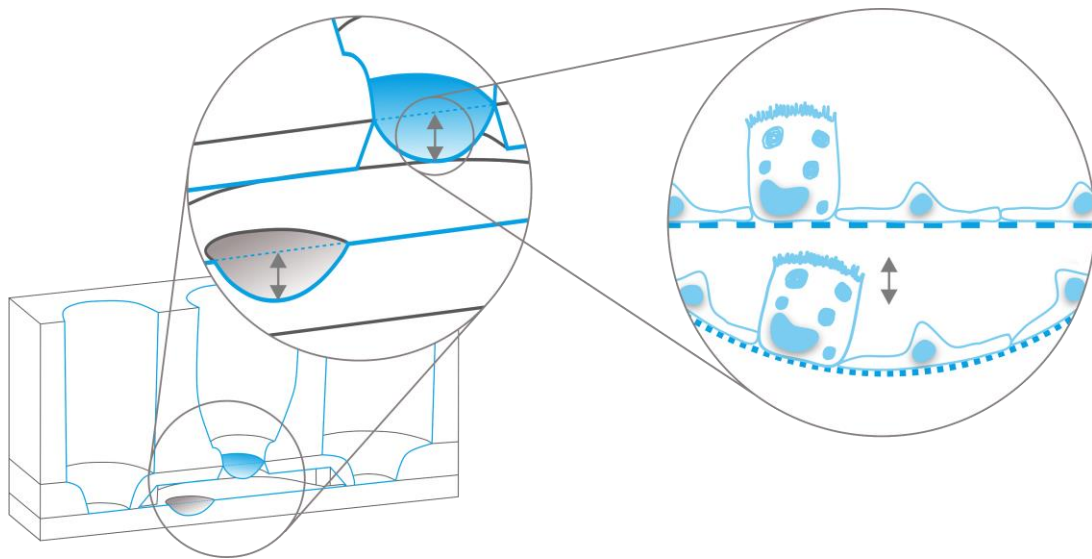


The AX12 | Chip Design

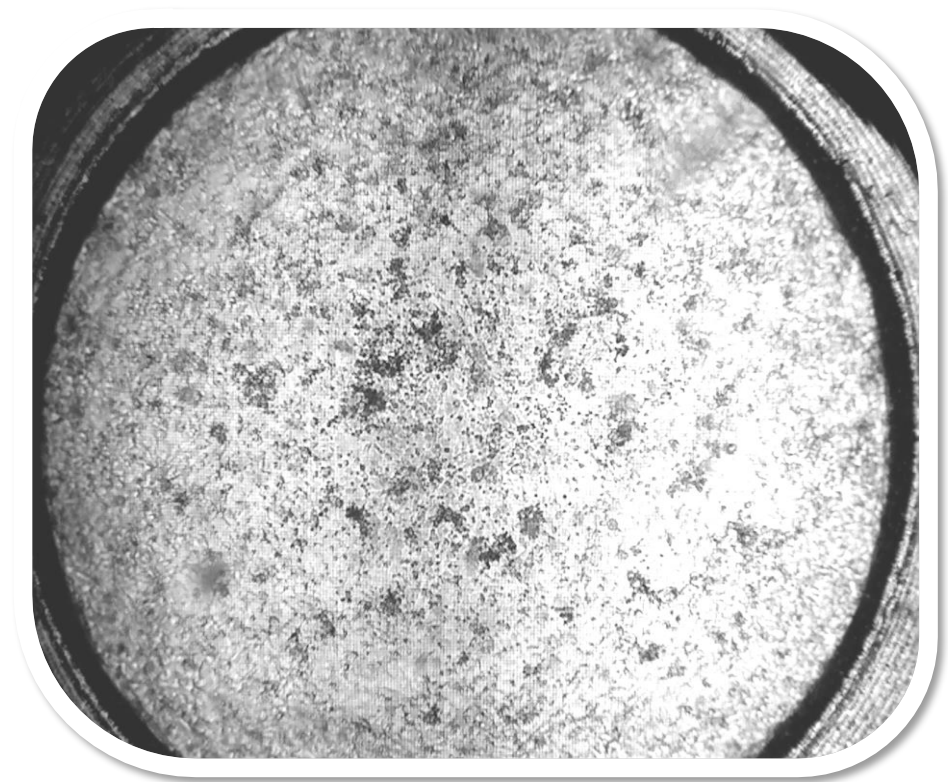


The AX12 | Stretching

- 3D stretch
- Range 0% - 8% strain



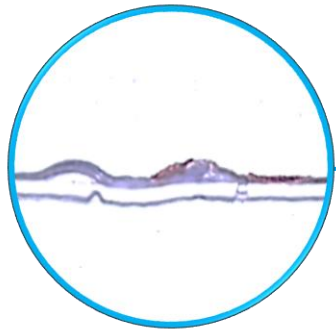
Bi-directional



Breathing Primary alveolar epithelial cells



Compatibility & Ease of Use

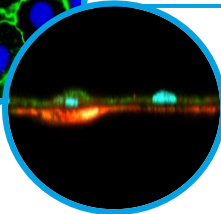
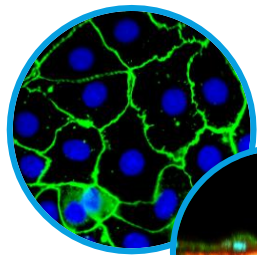
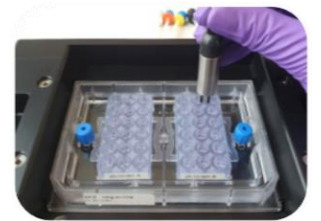


IHC

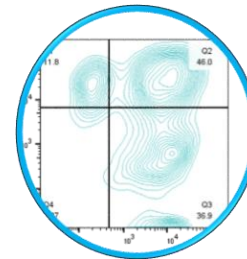
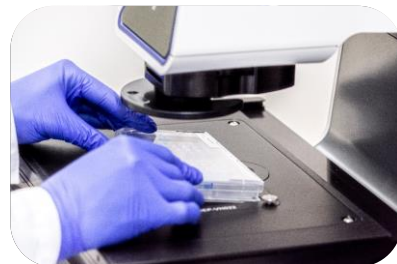


Live-cell assay

- Toxicity/viability (LDH, MTT)
- Cytokine release
- Barrier function (TER, permeability)



Imaging



Bulk and Single-cell processing

- Bulk/Single cell RNAseq
- Flow cytometry analysis

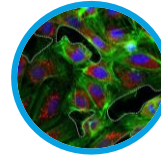
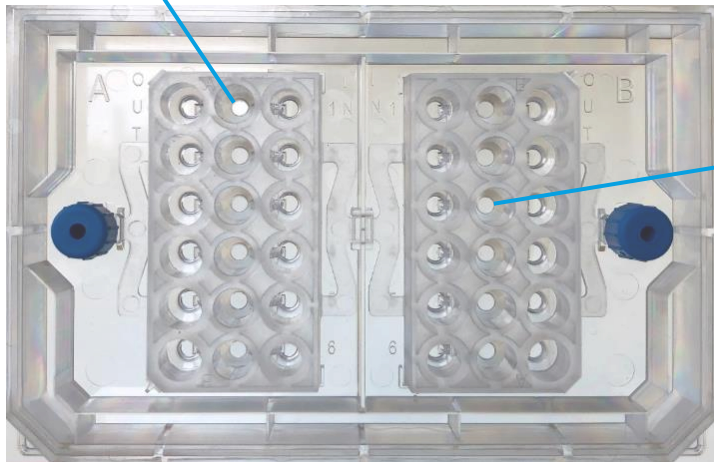


Application



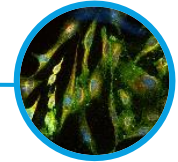
Custom models

- Healthy model
- Disease model
- Personalized medicine in the future

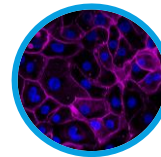


Safety

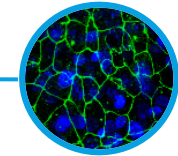
Disease modelling



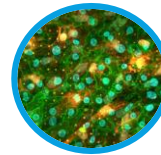
Efficacy



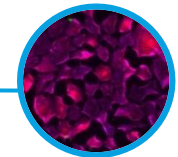
Immunotherapy



Inflammation

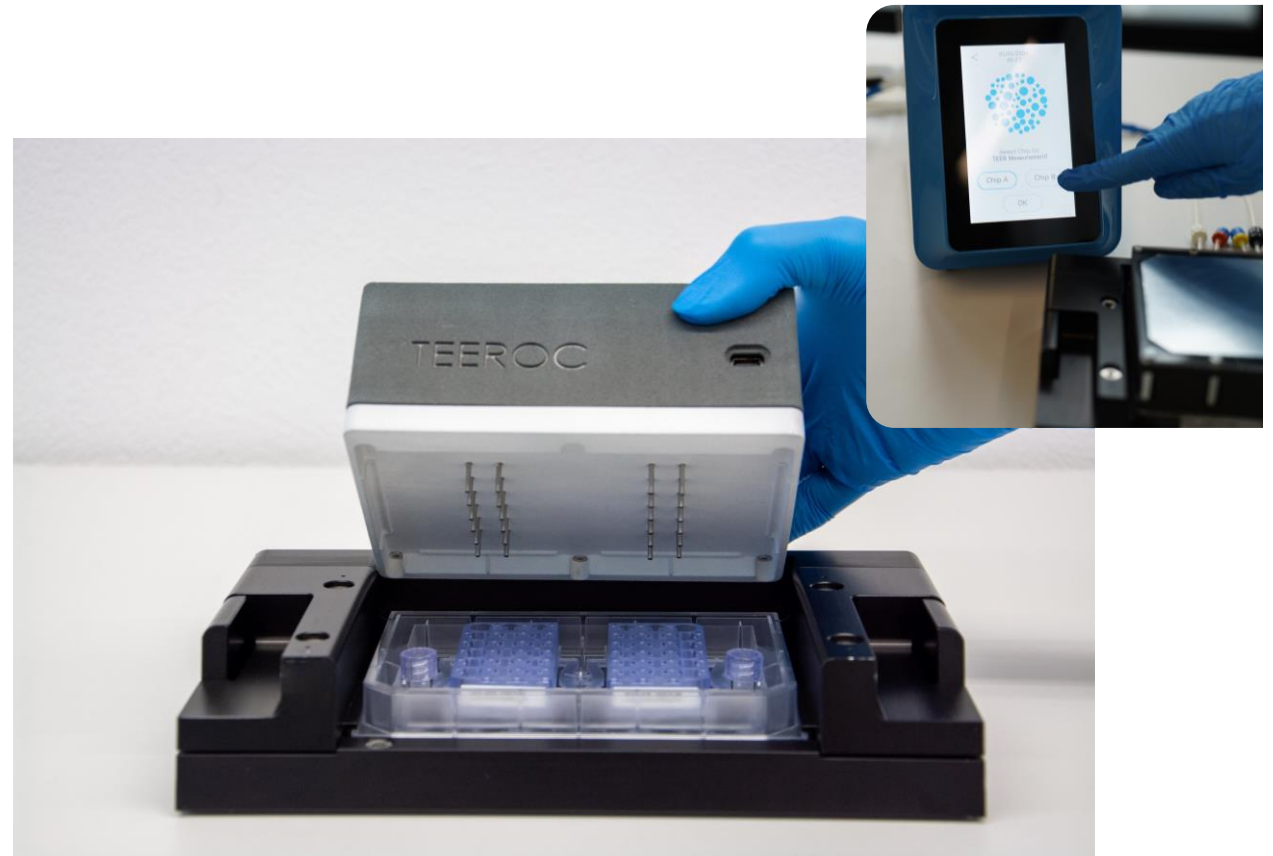
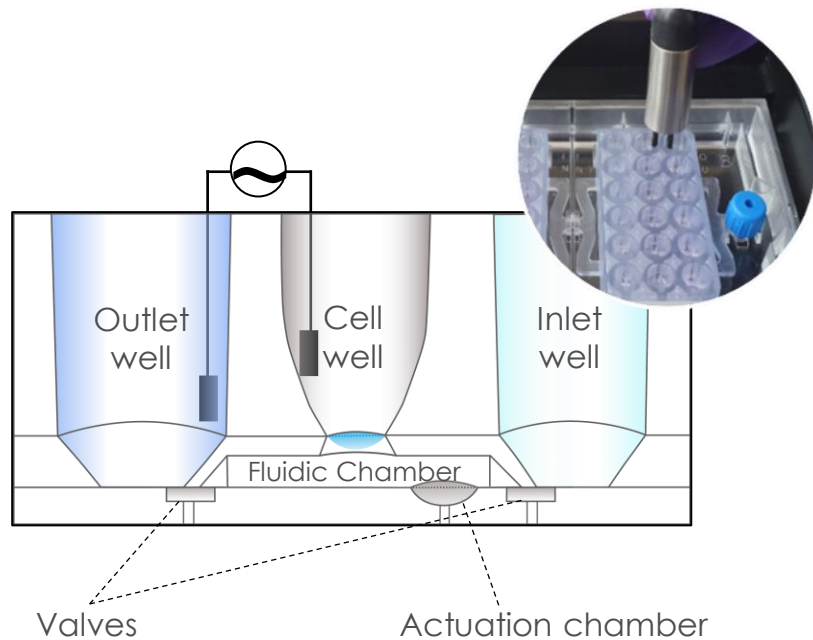


Infection



TEER | Impedance-on-Chip

TER: transbarrier electrical resistance



Cloud Alpha AX12 System



Real-time dose measurement



VITROCELL®
S Y S T E M S



How to work with AlveoliX?

System Purchase/Lease

- AX Consumable
- Get the ^{AX}Actuator and ^{AX}Exchanger
- Technical Support

Cells-on-chip

- Ready to use Lung-on-chip
- Ready to use Gut-on-chip

CRO

- Inhouse molecules testing



Cells-on-Chip



Ready-to-Use

Start your experiment straight away



Speed up your experiments

Save time to perform your assay



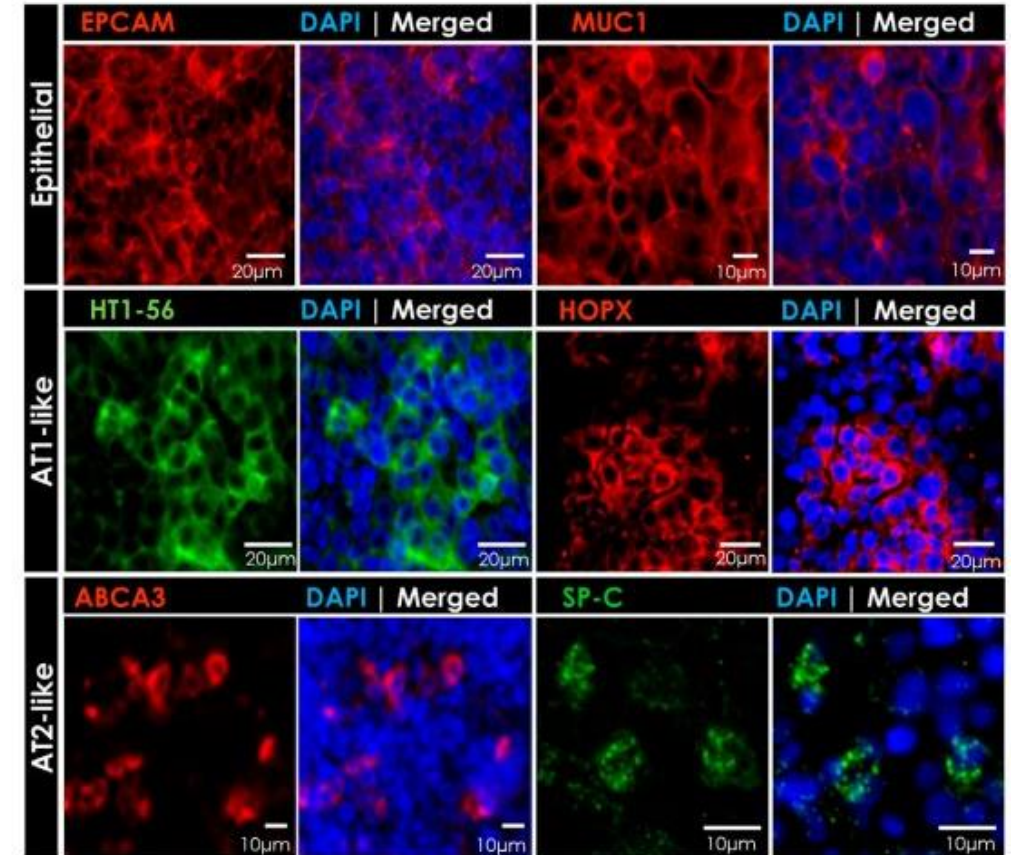
Kit with cells and culture medium

Ensuring optimal growth and a seamless user experience



Worldwide available

The AX12C iAlv can be shipped worldwide



[Sengupta et al., 2022, Frontiers in Toxicology](#)



How to work with AlveoliX?

System Purchase

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Cells-on-chip

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CRO

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Thank you for your attention



Don't hesitate to follow us for the latest updates



Contact us

pauline.zamprogno@alveolix.com

