

OncoCilAir™

Human 3D *in vitro* lung cancer model

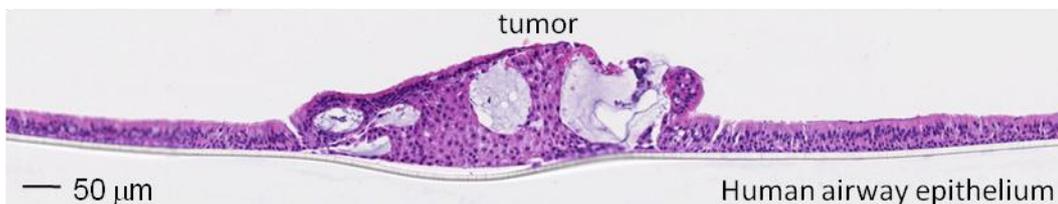


Figure 1: Histological section (H&E) of an OncoCilAir™ culture showing a tumor nodule invading the surrounding healthy human airway epithelium.

- **100% human**
- **Airway + Tumor + Stroma**
- **Direct fluorescence read-out**
- **Ready to use**

Lung cancer, an unmet medical need

With more than 1 million deaths worldwide every year, lung cancer remains an area of unmet need. To date there is no effective treatment for patients and unfortunately, a large number of promising drug leads keep failing in late clinical stages. These observations have cast uncertainty on the established drug discovery process and question the relevancy of the animal models currently in use. Accessible **human *in vitro* 3D** tissue models are required to improve preclinical predictivity.

Modelling the disease

Maintaining a 3D environment is critical for cell-cell interaction and ultimately for the proper development of human cancer. At **OncoTheis**, we have used our expertise in tissue engineering to build up a novel three-dimensional lung cancer model, **OncoCilAir™**, which integrates three different human components: bronchial cells, lung fibroblasts and Non Small Cell Lung Carcinoma cells.

Because of its unique design, **OncoCilAir™** closely mimics *in vitro* human tumors invading the adjacent 3D normal airway epithelium (Figure 1). Indeed, by contrast to cells grown under 2D culture conditions, **OncoCilAir™** tumors extend by forming nodules, a hallmark of human lung cancer (Figure 2). This property makes **OncoCilAir™** an ideal model to accurately explore the tumor response to therapeutic agents in a relevant biomimetic context.

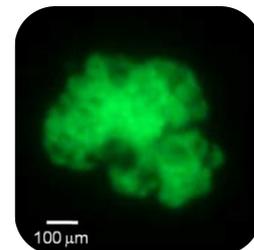


Figure 2: OncoCilAir™ cultures closely mimic the characteristic tumor lung nodules found in patients.

Applications

- Compound efficacy studies (Figure 3)
- Acute and chronic toxicity
- Therapeutic antibodies testing
- Nano-cancer therapies testing
- Oncolytic virus therapies testing
- Drug delivery (airway/systemic)
- Predictive biomarkers
- Cytokines, chemokines, metalloproteinases release
- Tumor resistance and relapse

For more details, please contact us at
info@oncotheis.com

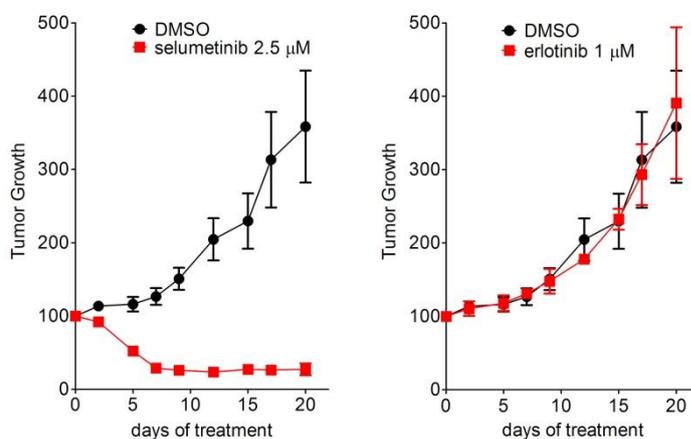
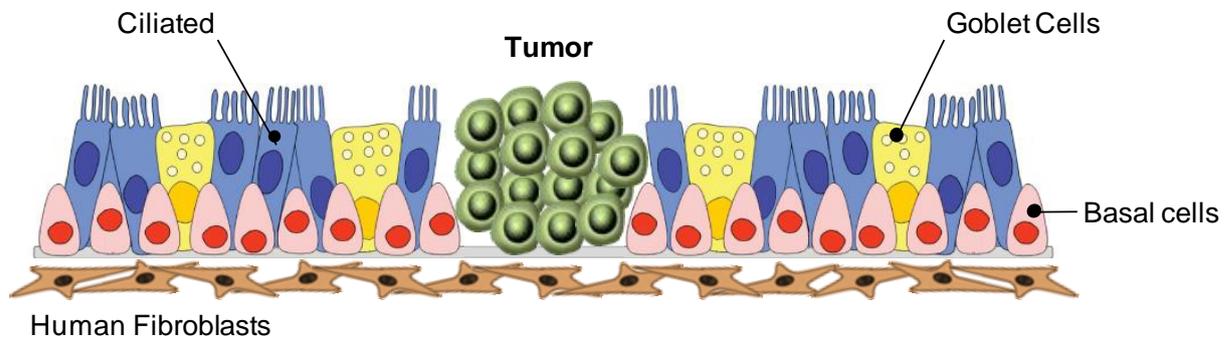


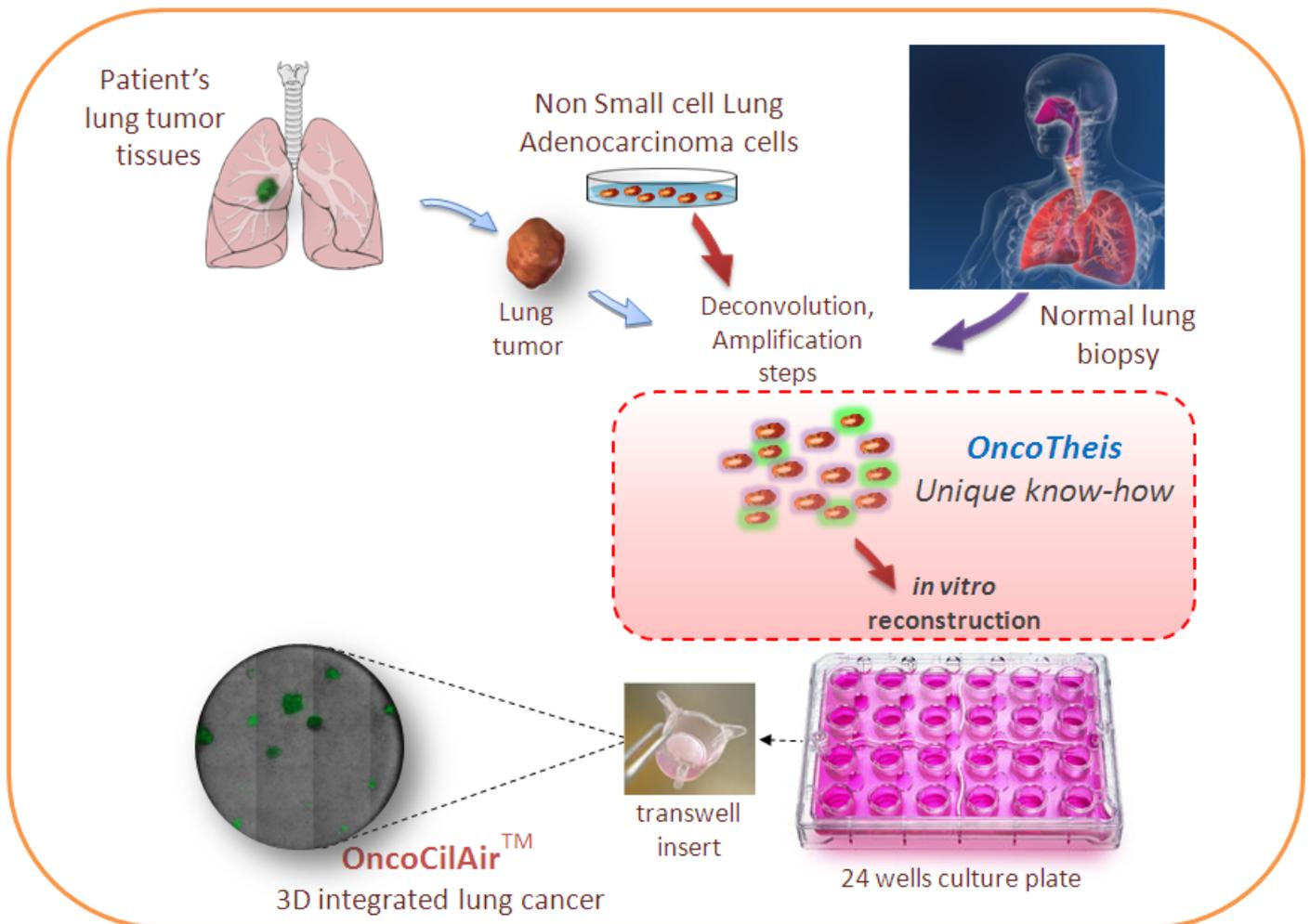
Figure 3: Tumor growth in OncoCilAir™ KRAS^{mut} cultures is inhibited by MEK (selumetinib) but not EGFR-TK (erlotinib) inhibitors.

OncoCilAir™

Human 3D in vitro lung cancer model



Process Overview



Reference: Mas C et al. Journal of Biotechnology 2015, in press

Test OncoCilAir™, free samples available on request
Please contact us at info@oncotheis.com