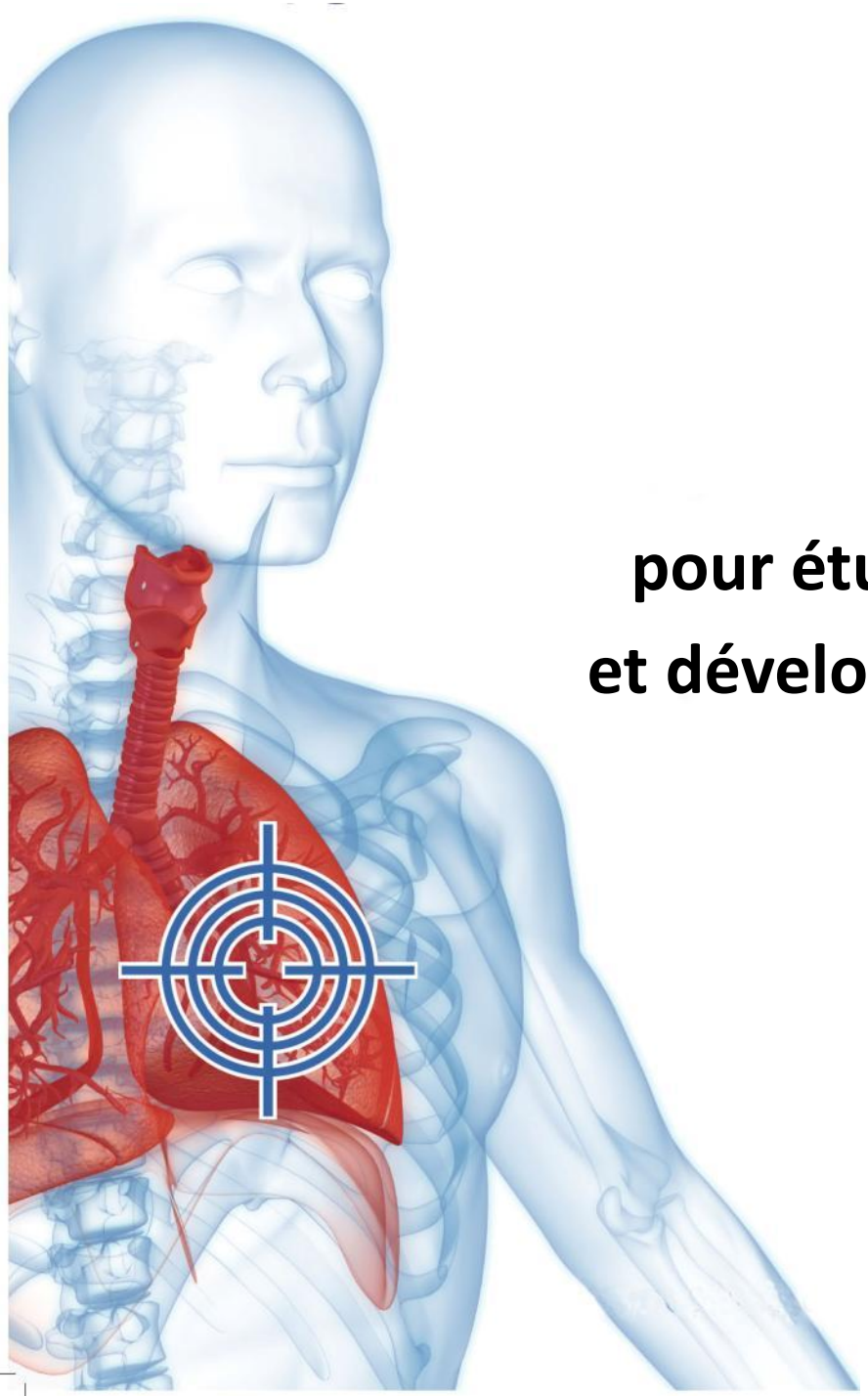
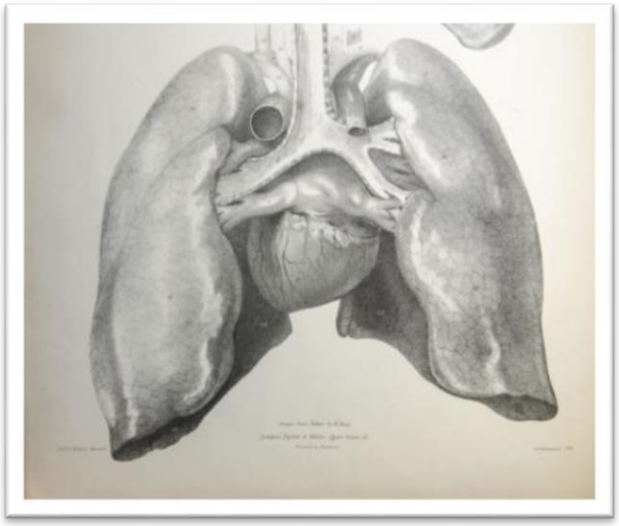


Un modèle in vitro pour étudier le cancer du poumon et développer de nouvelles thérapies

Christophe Mas - Mars 2015

Le cancer du poumon

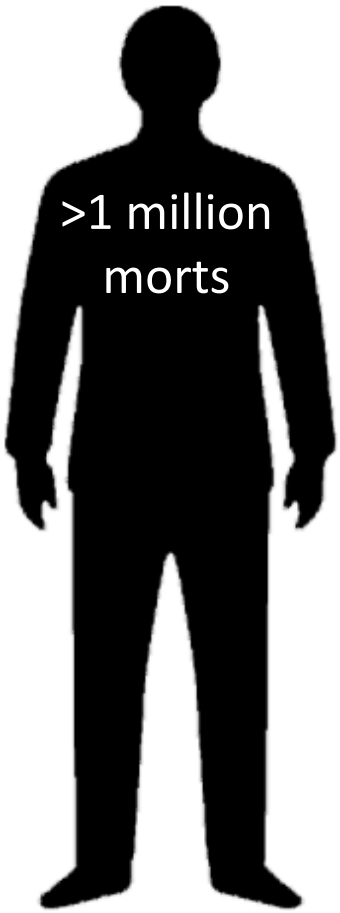


Jones Quain, 1828
" Elements of Anatomy "

Osman Ratib, 2012
Pet-IRM

adenocarcinome
CT Scan (Rayons X)

Le cancer du poumon



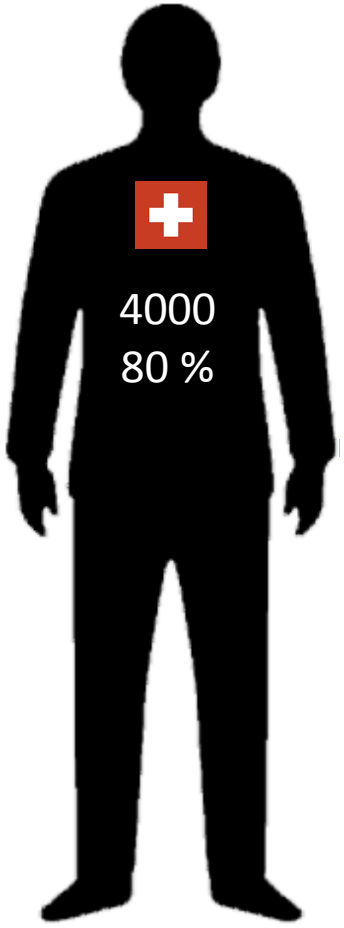
Non petites cellule 85%

petites cellules 15%

>3 millions

Traitements

1. Erlotinib
2. Gefitinib
3. Afatinib
4. Crizotinib
5. ceritinib
6. bevacizumab



recurrence

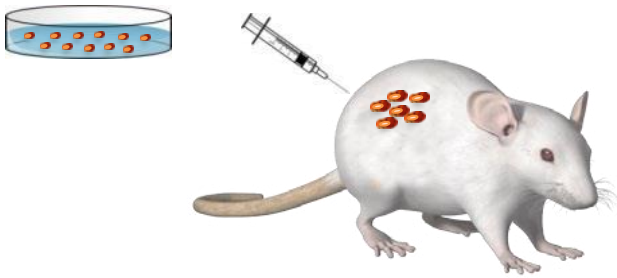
Les modèles animaux

Souris génétiquement modifiées

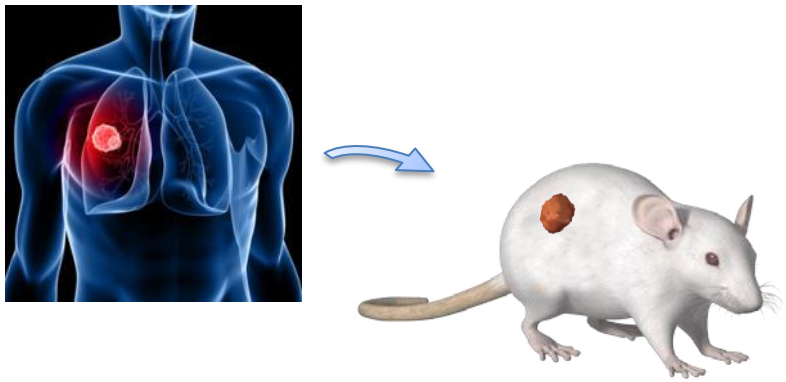
Lung adenocarcinomas (K-ras^{G12D} p53$^{f/+}$)

SCLC (Rb1$^{f/f}$; p53$^{f/f}$)

Xéno-greffe de cellules tumorales

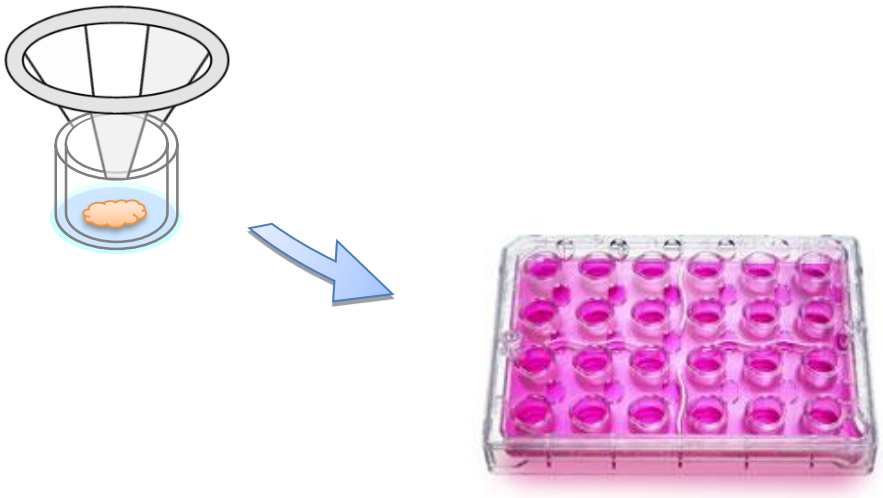


Xenogreffe de tumeur de patient



Un modèle humain du cancer du poumon de l'homme

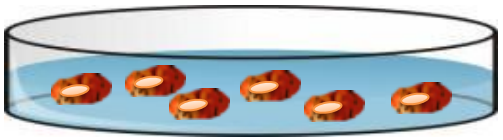
- cellules humaines
- *in vitro*
- 3-Dimensionnel
- simple à utiliser



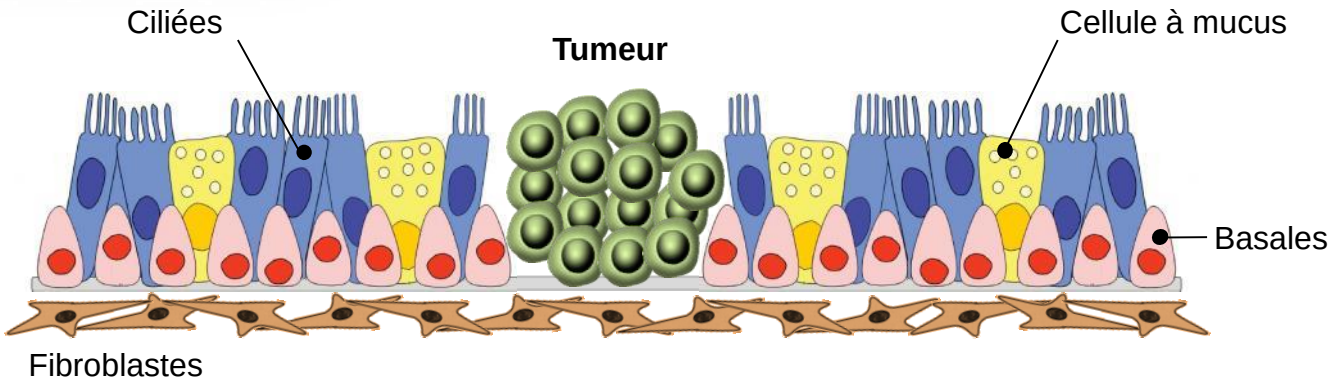
Le modèle OncoCilAir

Cellules bronchiques normales

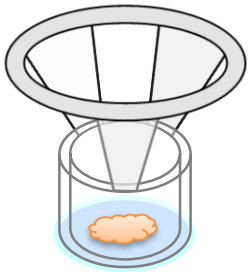
Lignée cellulaire tumorale

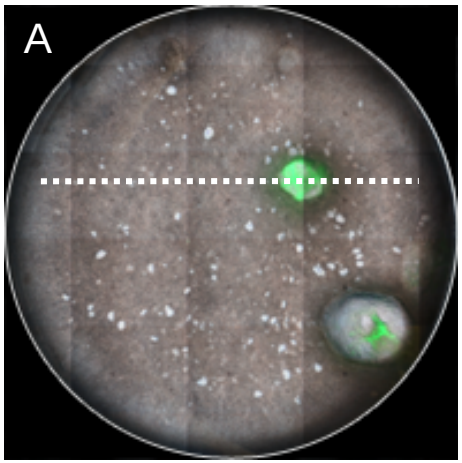


GFP+



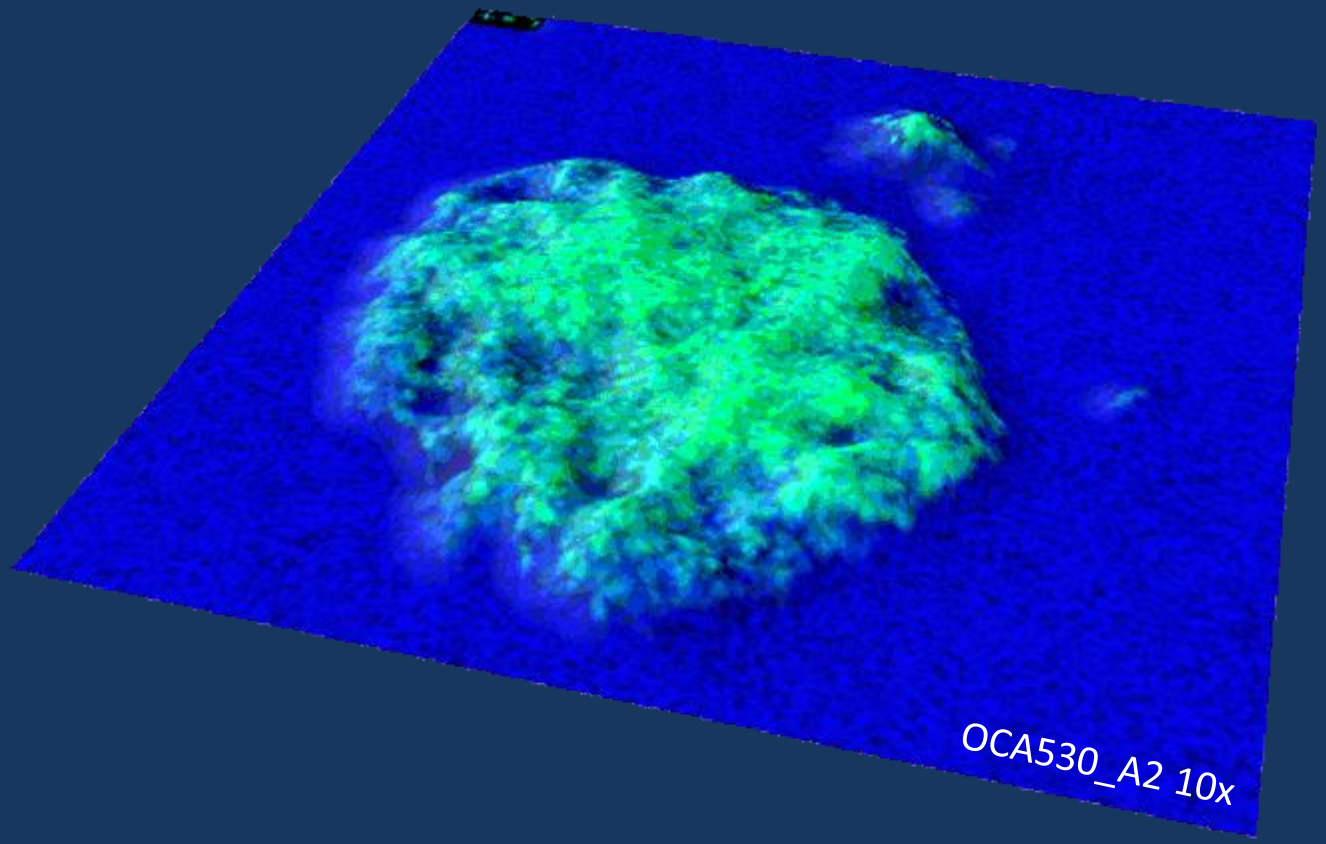
Le modèle OncoCilAir



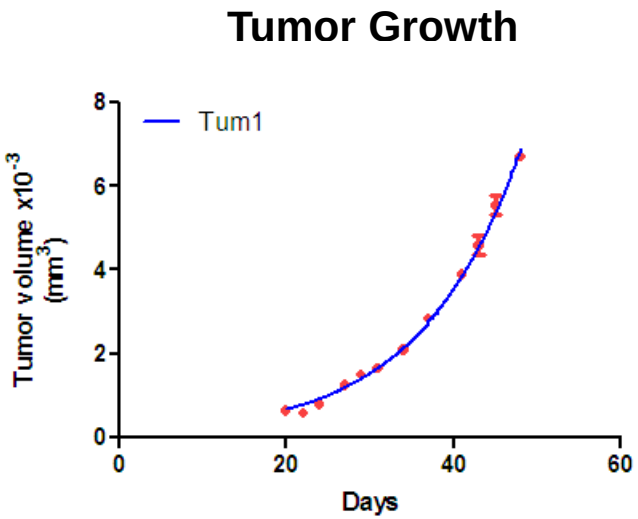


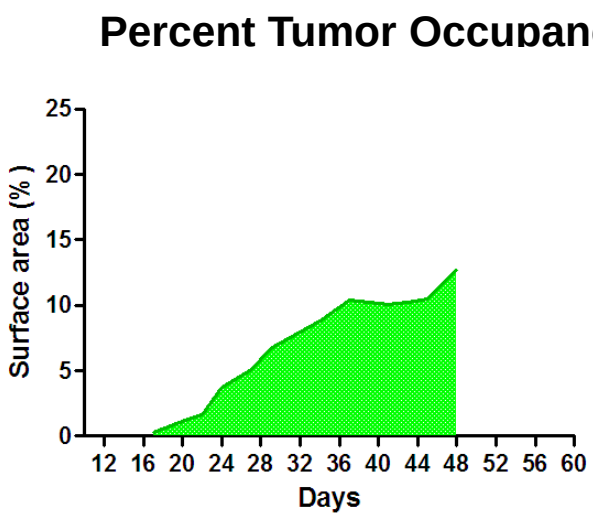
OncoCilAir

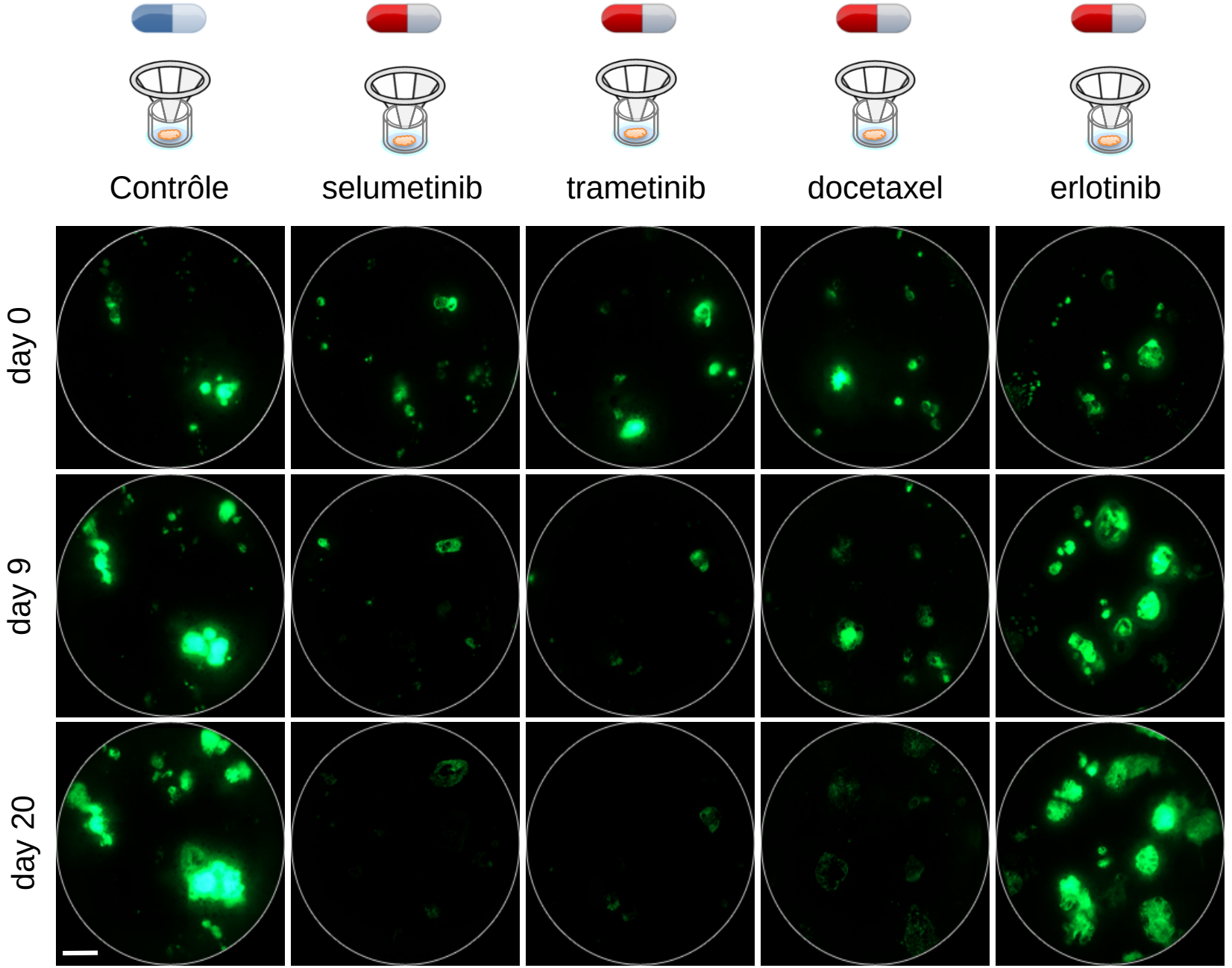
Vue en microscopie confocale



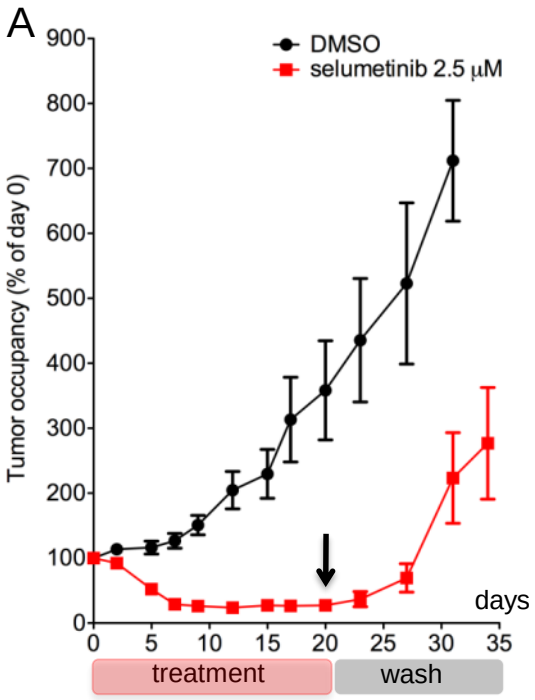
OncoCilAir
- Courbe de croissance tumorale -

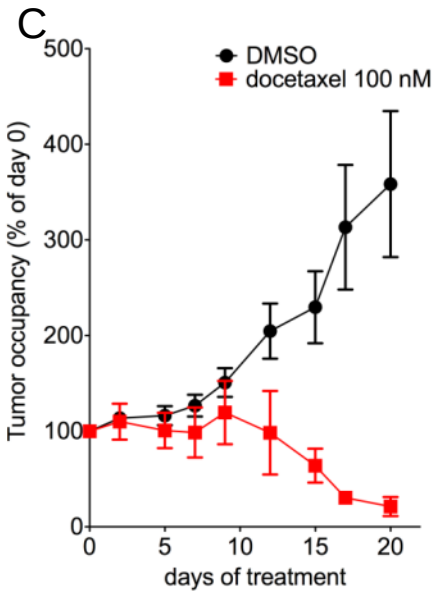


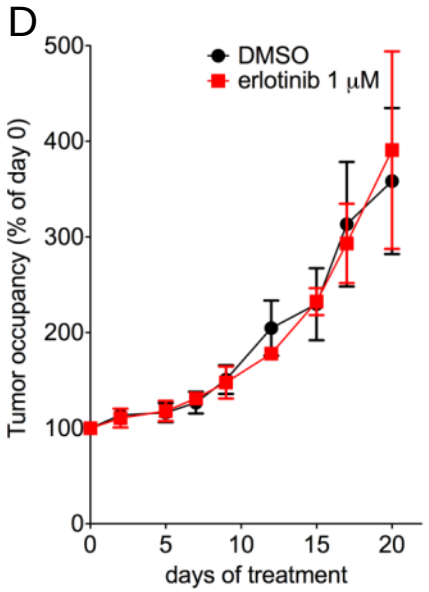


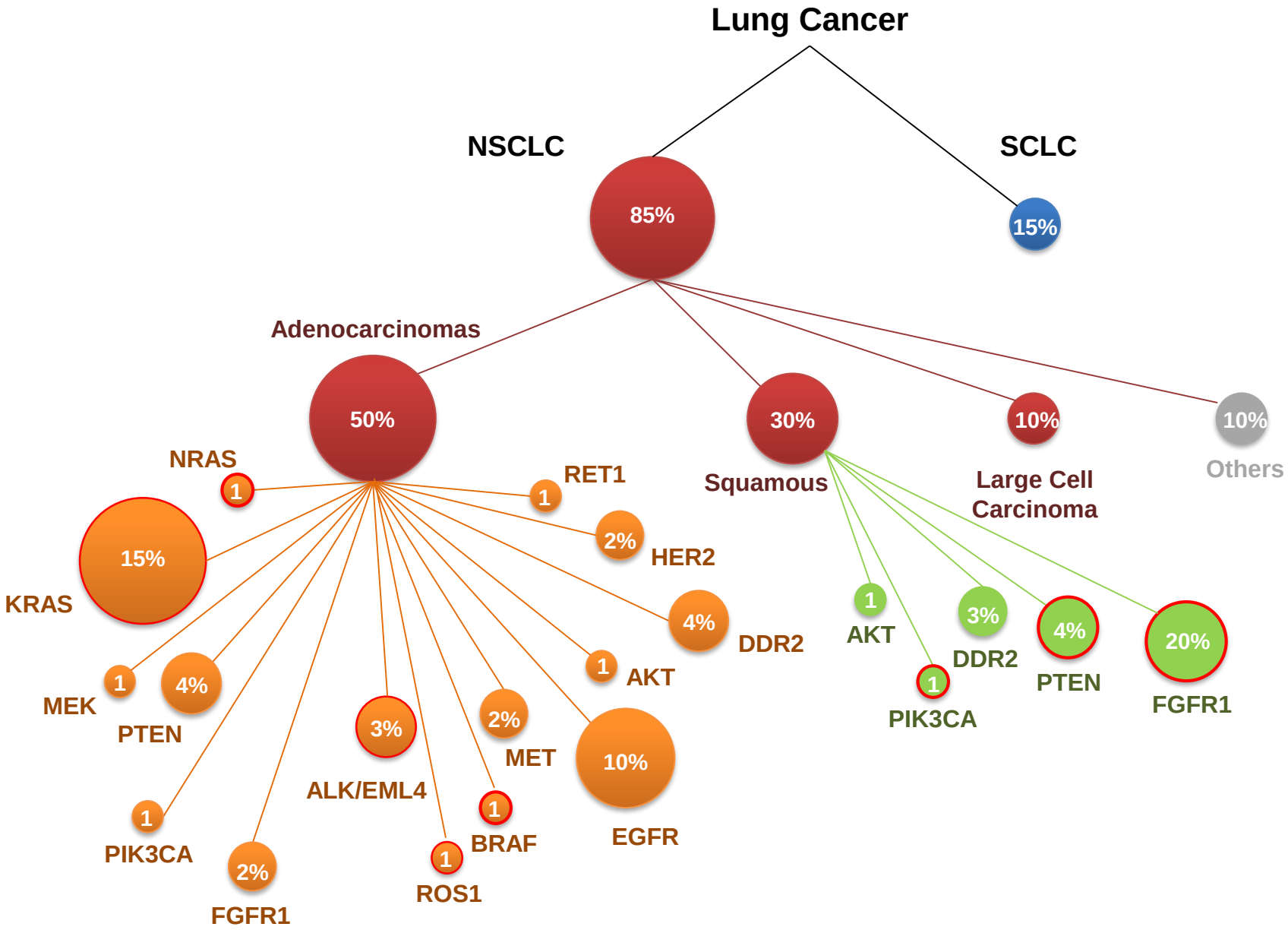

Contrôle
selumetinib
trametinib
docetaxel
erlotinib
day 0
day 9
day 20

Evaluation de l'efficacité

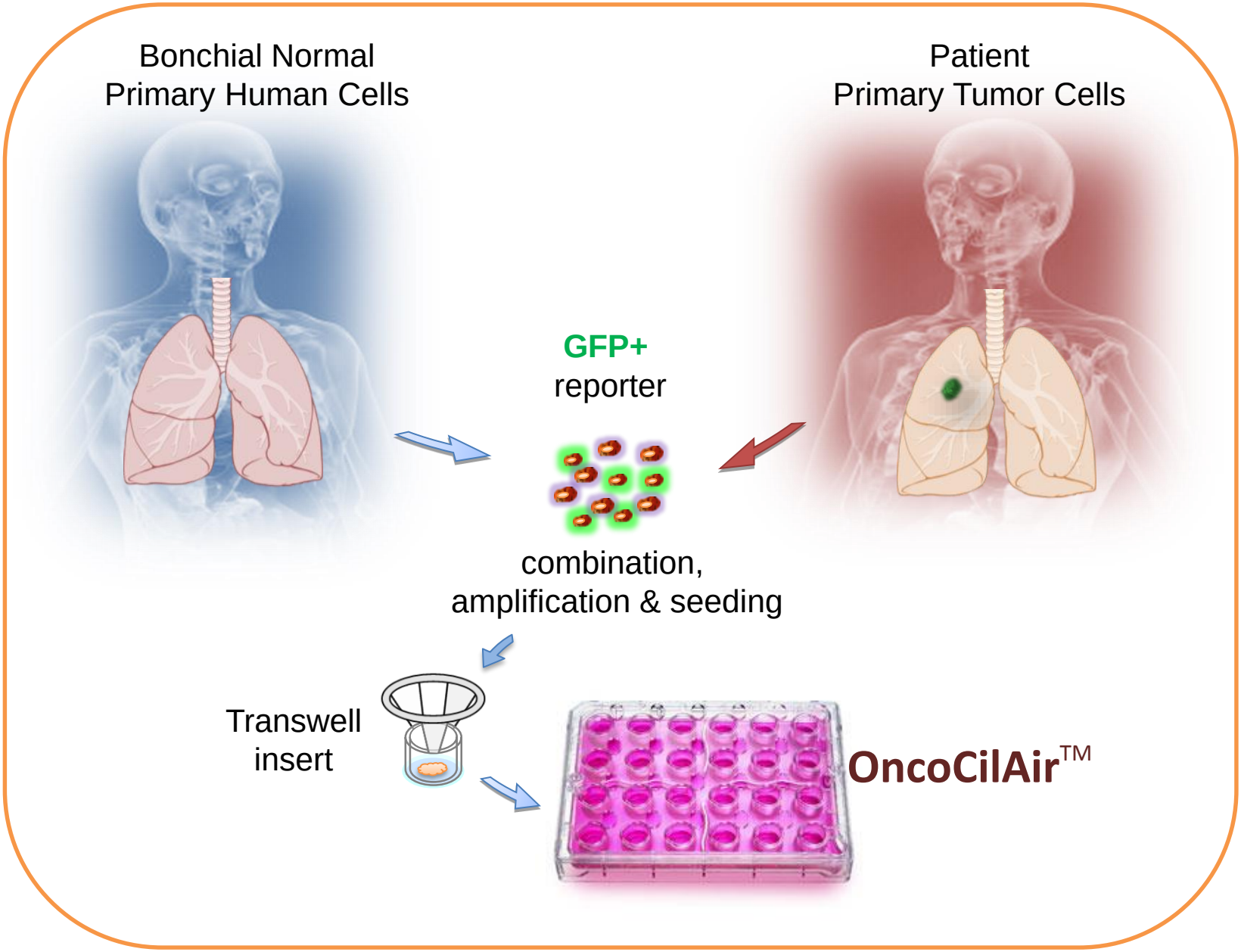




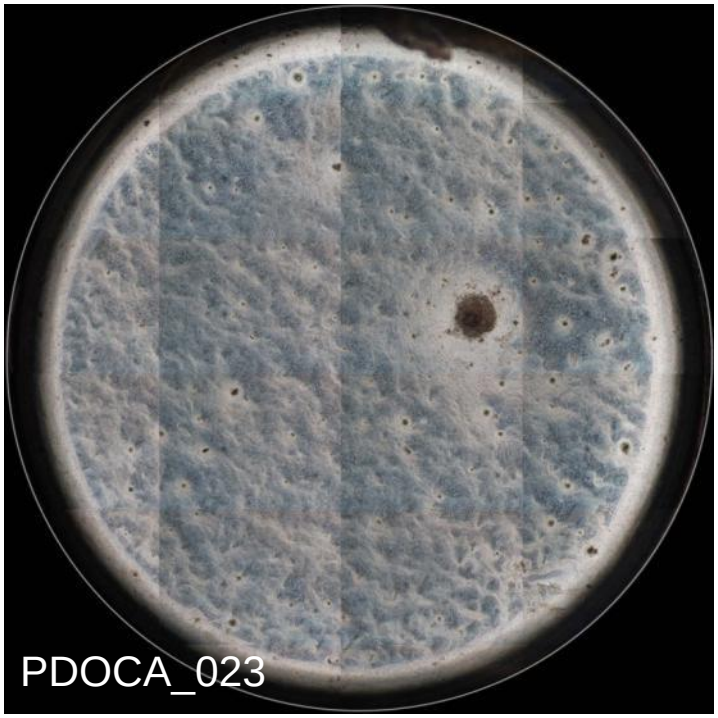


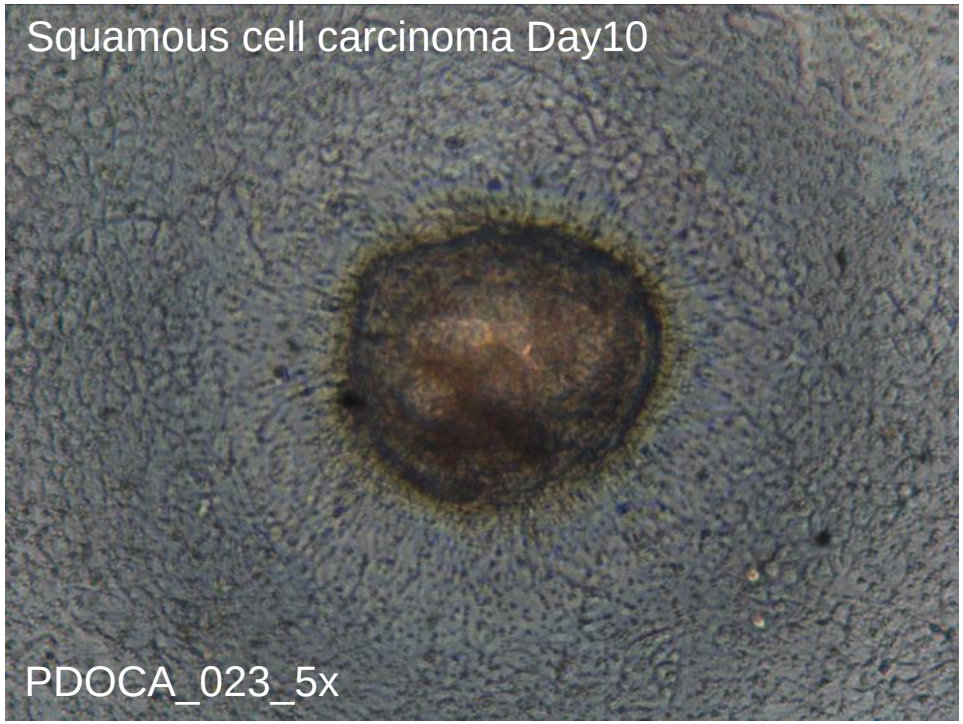

Lung Cancer
NSCLC
SCLC
85%
15%
Adenocarcinomas
50%
30%
10%
10%
Squamous
Large Cell Carcinoma
Others
NRAS
1
RET1
1
2%
HER2
15%
KRAS
4%
DDR2
1
AKT
1
MEK
4%
PTEN
3%
ALK/EML4
2%
MET
10%
EGFR
1
PIK3CA
1
BRAF
2%
FGFR1
1
ROS1
1
AKT
3%
DDR2
1
PIK3CA
4%
PTEN
20%
FGFR1

OncoCilAir Primaire



Patient Derived
OncoCilAir™

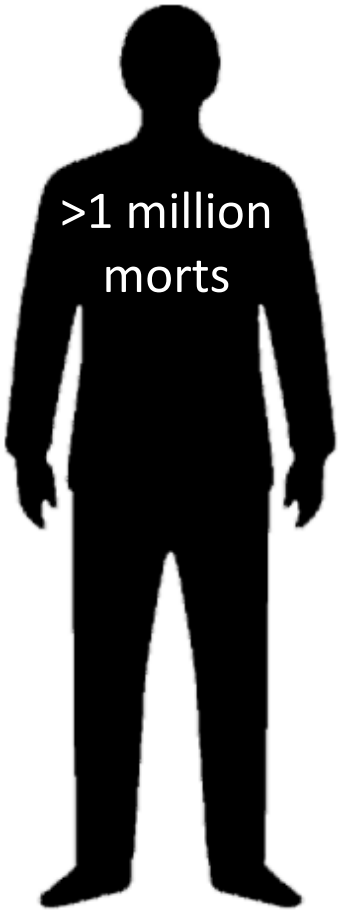


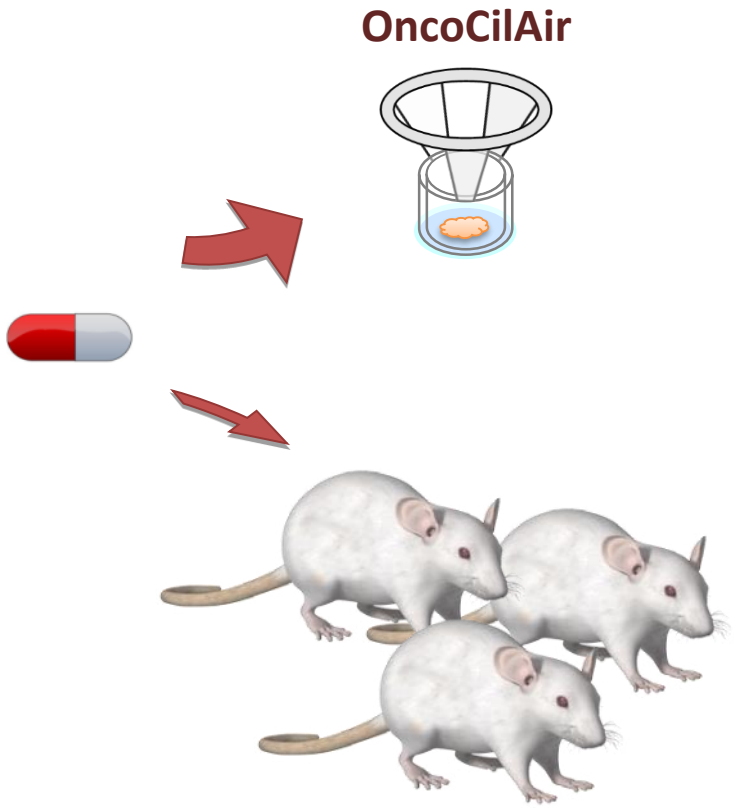


Panel de patients

- Test de molécules sur une population de patients

Le cancer du poumon





Méthodes alternatives


11 millions


5 millions


0.5 million

Oncotheis

Remerciements