



"ALEXANDER FLEMING"  
Biomedical Sciences Research Center



# Δημιουργία πλατφόρμας βιοψιών σε “τσιπ” για την πρόβλεψη της απόκρισης ασθενών με καρκίνο του πνεύμονα στην ανοσοθεραπεία

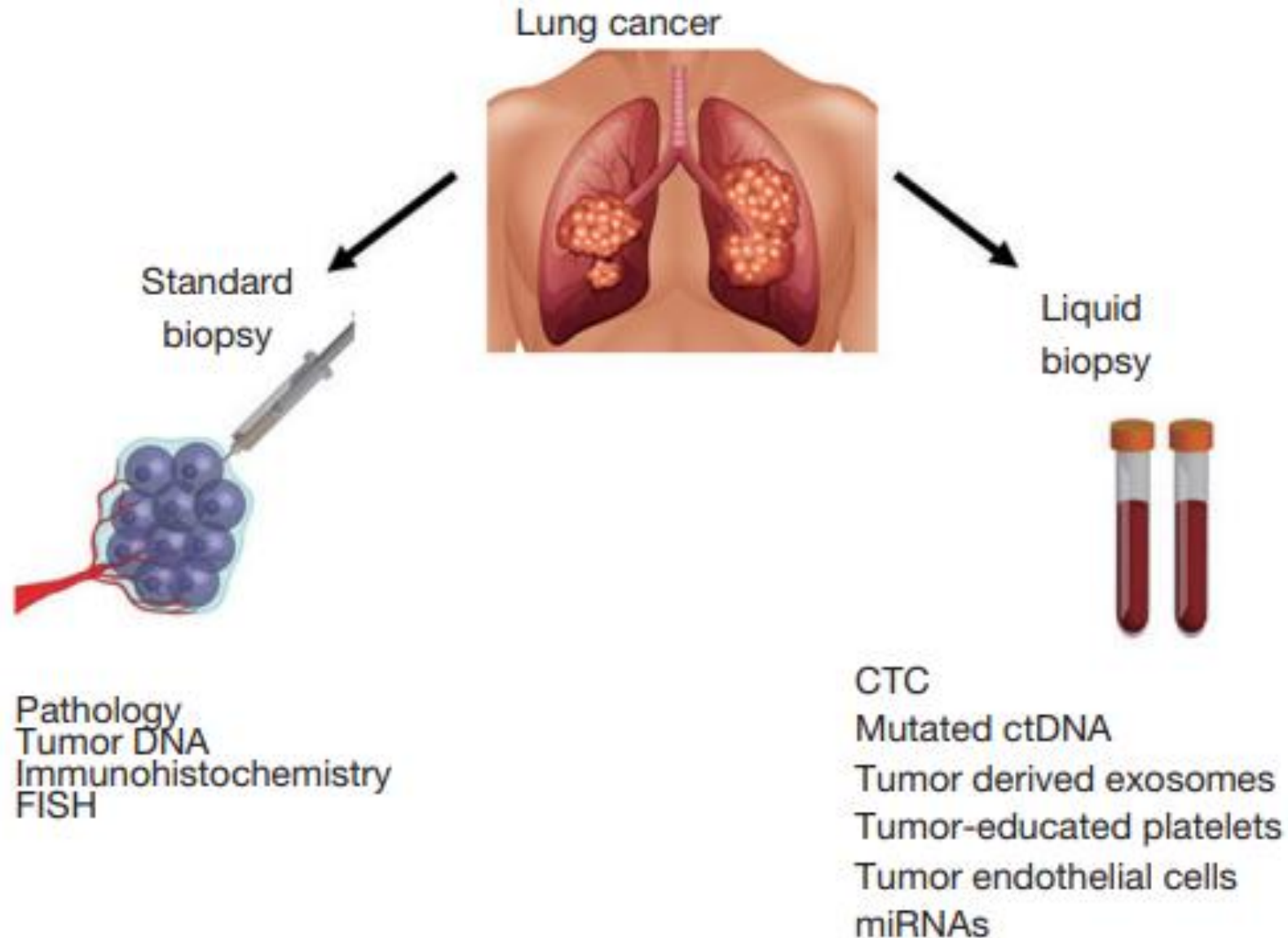
Τσουμακίδου Μαρία, MD PhD, Πνευμονολόγος  
Ερευνήτρια Β, Ινστιτούτο Βιοκαινοτομίας

Ερευνητικό Κέντρο Βιοϊατρικών Επιστημών (Ε.ΚΕ.Β.Ε.) "Αλέξανδρος Φλέμινγκ"

Αθήνα

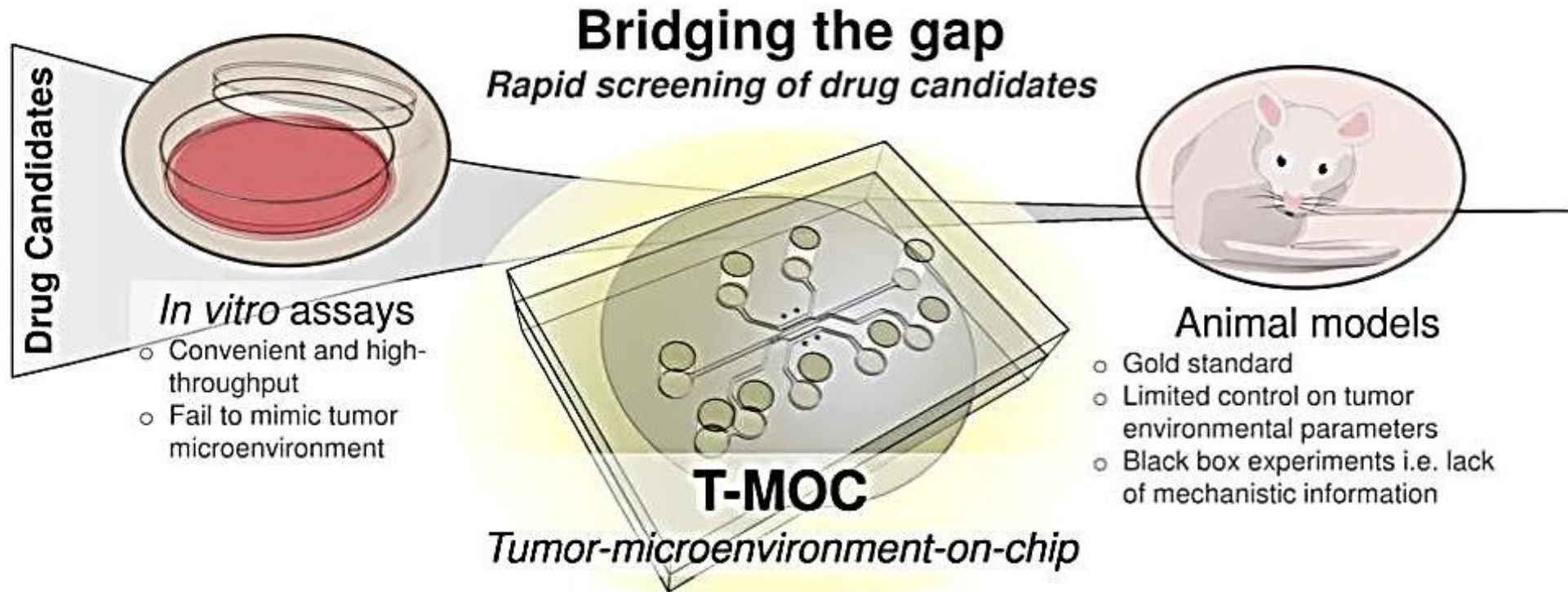


# ΣΥΓΧΡΟΝΕΣ ΤΕΧΝΙΚΕΣ ΑΝΙΧΝΕΥΣΗΣ ΒΙΟΔΕΙΚΤΩΝ





# Tumor-Microenvironment-On-Chip



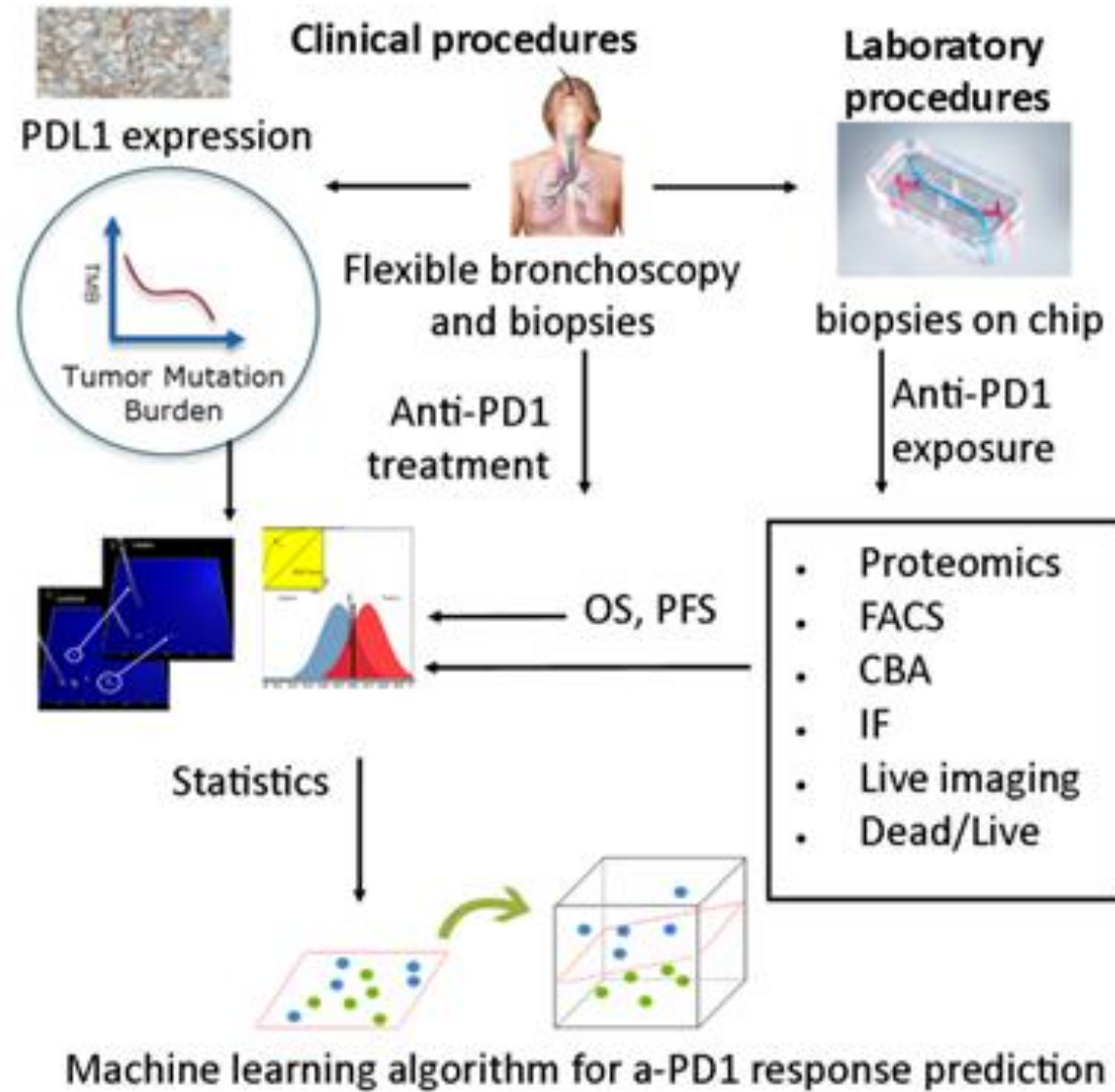
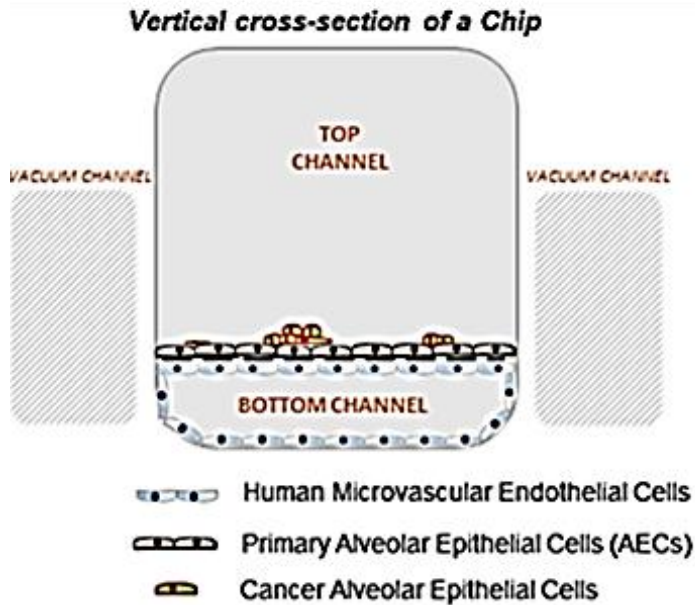
# Clinical Need Addressed by BronchoBOC

- Anti-PD-1 monotherapy first-line currently represents standard treatment option for advanced NSCLC, non-targetable driver mutations and >50% PDL1 expression.
- More than half of these selected patients do not respond or become resistant after an initial response.
- Identifying patients who are likely to benefit from anti-PD-1 monotherapy or need more aggressive treatment combinations is an unmet need.

We aim to interrogate the applicability of organ-on-chip technology in predicting response to a-PD1 in real-time in NSCLC patients.



# BronchoBOC workflow



Total: 894.244 Euro  
Role: Coordinator





# BronchoBOC organization

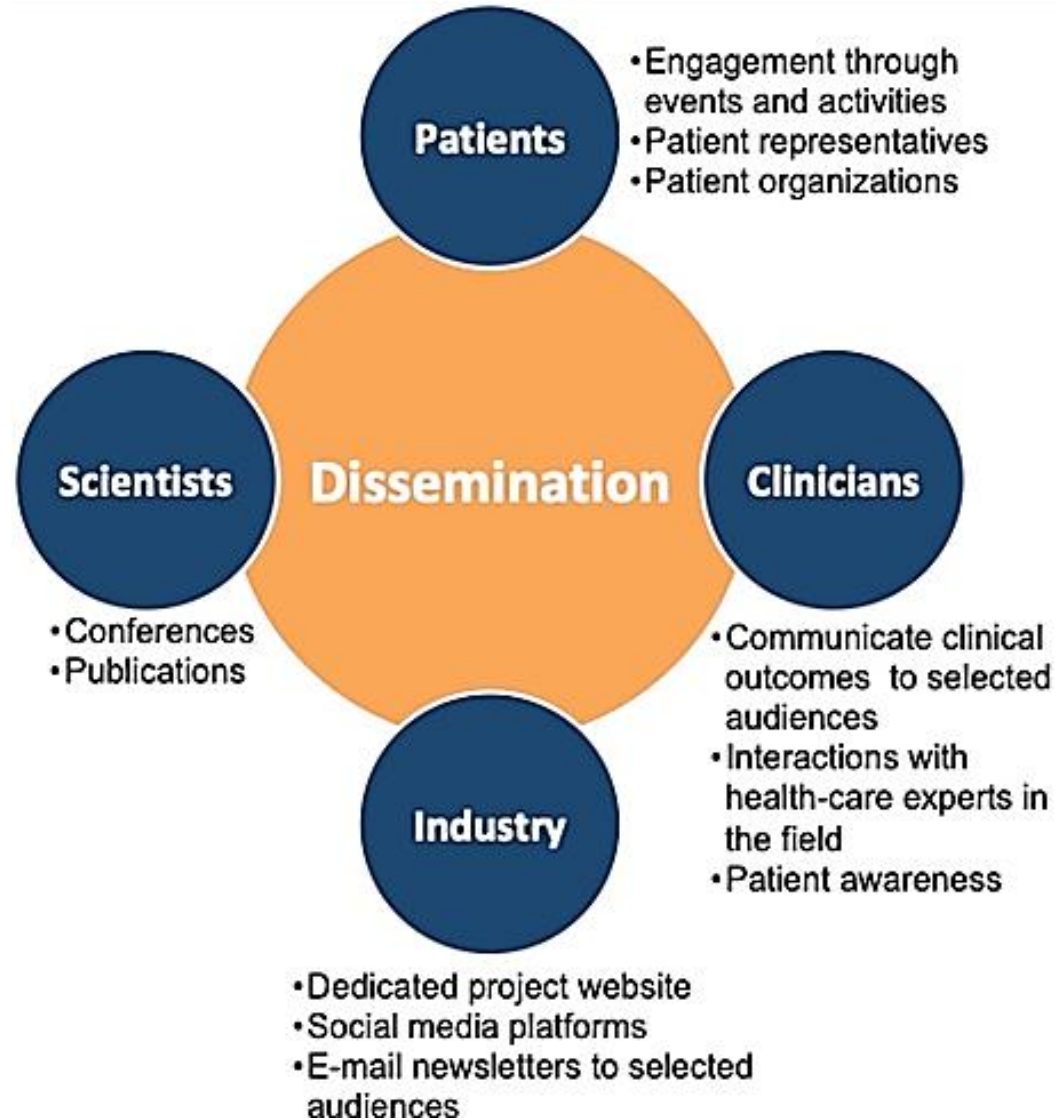


## Hospitals:

- Evangelismos
- Institute of Oncology
- Morgagni-Pierantoni
- Azienda Ospedaliero



# Dissemination plan



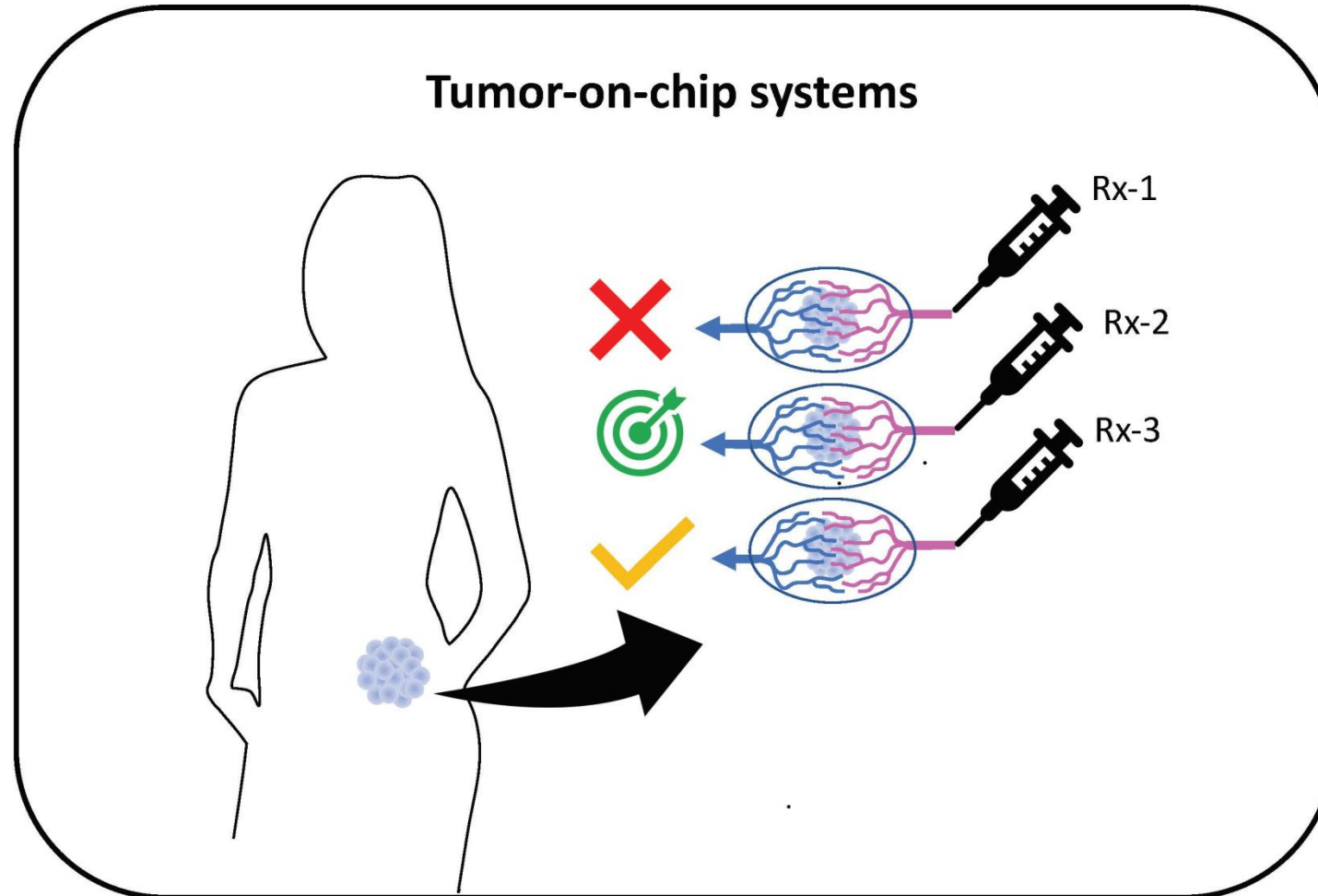


# Active Patient Involvement

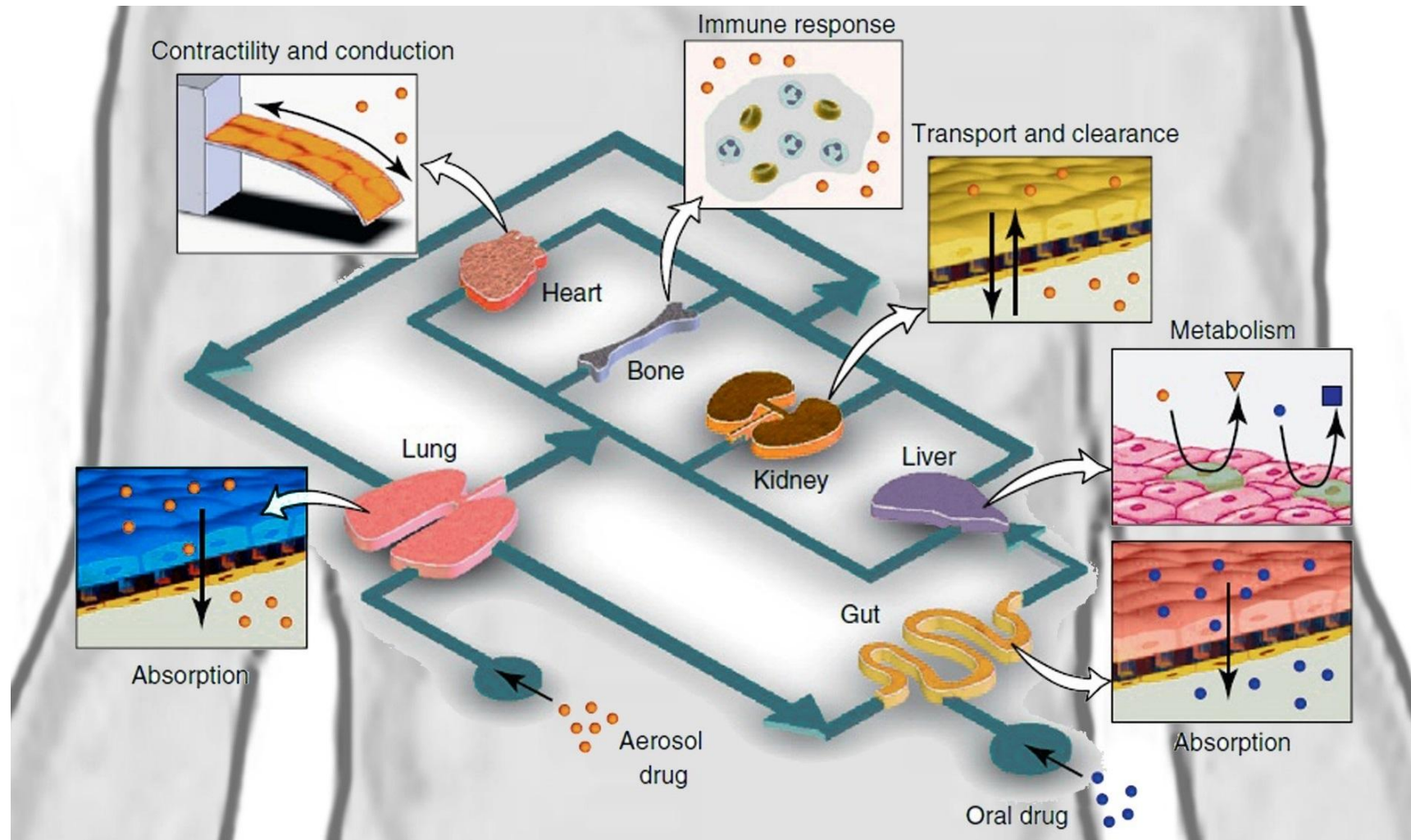
- AIMaC (IT) and ELLOK (GR) will co-lead dissemination plan with Fleming through **subcontracting**.
- Additionally, **Selbsthilfe Lungenkrebs (GER)** has agreed to actively participate in BronchoBOC project.
- AIMaC, ELLOK and Selbsthilfe Lungenkrebs will advise the scientific project partners on any ethical, communication and implementation issues that may affect the lives of people living with lung cancer.
- AIMaC, ELLOK and Selbsthilfe Lungenkrebs can support and promote the public awareness of the project results presenting at patient information meetings. Using their websites and social media accounts (e.g., Facebook, Twitter), they will directly engage in interactions with patients, health care professionals, policy makers, health care systems to inform them about the project and its results that could be relevant for disease diagnostics and future disease management.



# End product: A new drug screening platform!



# Human-On-Chip



# Ongoing Collaborations

pMED, University of Athens, GR  
E. Efthymiadou, Demokritos, GR  
S. Henri, CIML, FR  
L. Shultz, University of Massachusetts, USA  
G. Stathopoulos, University Munich, GER  
V. Soumelis, Curie Institute, FR  
D. Lambrechts, VIB Leuven, BE

Academia

Sotiria and Evaggelismos, GR  
Institute of Oncology Bucharest, RO  
Morgagni-Pierantoni and Azienda Ospedaliero, IT

Health Sector

Emulate Inc, USA  
Mosaiques Daignostics, GER  
MYO, GR

Industry

ELLOK, GR  
AIMAC, IT

Patients  
Organizations

RESTORE

LSRI



# Ongoing Funding

ERA PerMed

