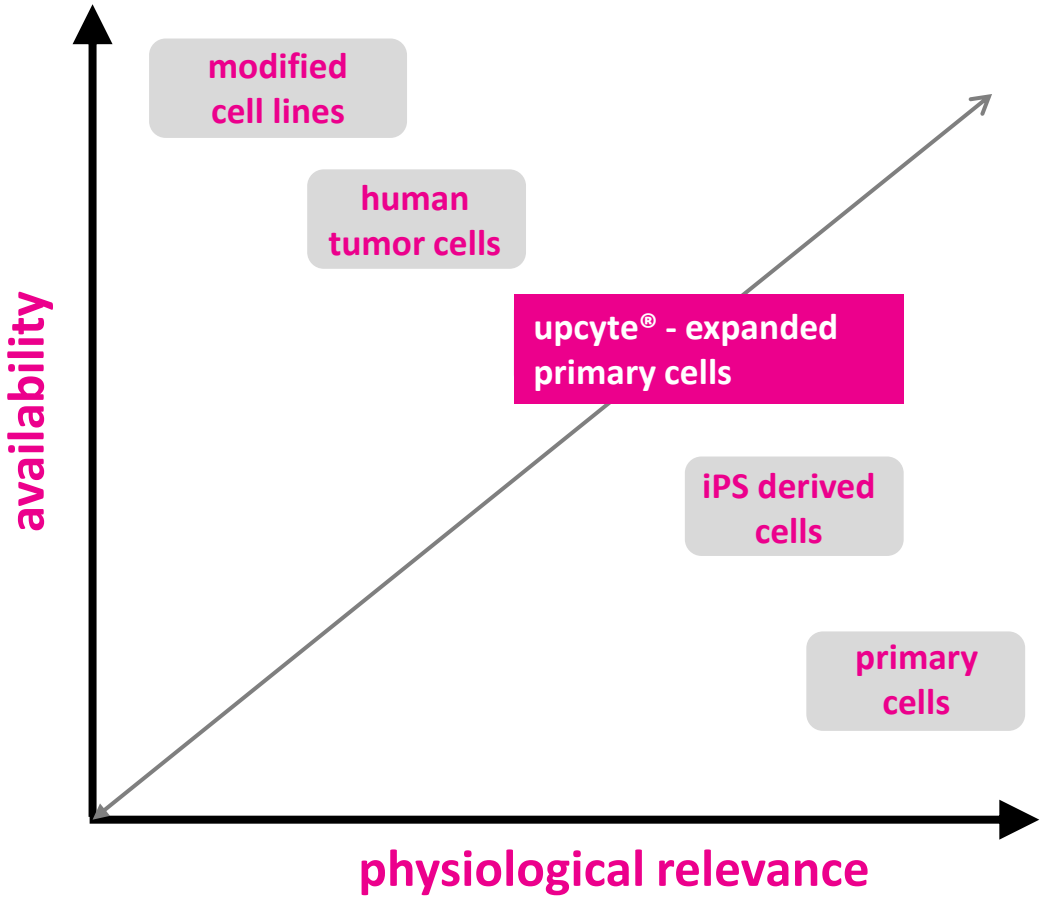
upcyte® - expanded primary cells

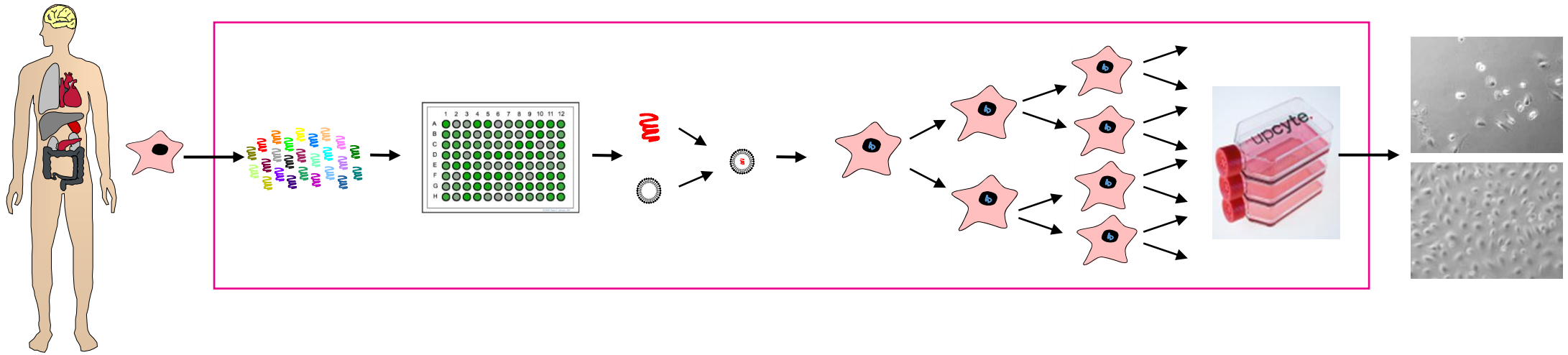
the upcyte® solution

finding the best cellular model – market position



the upcyte® solution

technology & cell production



cell isolation

selection of the optimal gene combination that induces proliferation

lentiviral transduction of primary cells

proliferation

quality control of genetically modified proliferating primary cells

upcyte® cells

the upcyte® solution

advantages

✓ **extensive availability**
- virtually unlimited cells from single donors
- supply for screening applications

✓ **easy & safe handling**
- quality controlled cells
- detailed information on cell type specifications
- assay-ready format
- standardized PFUs
- optimized media

✓ **primary cell features**
- generated from healthy human adult cells
- karyotypically stable
- physiologically relevant profile
- cell type specific phenotype

✓ **donor selection**
- healthy or diseased tissue
- distinct tissue subtypes
- custom upcyting of primary cells

✓ **wide range of applications**
- basic R&D
- pharmaceutical preclinical development
- e.g. ADMET, viral infections

✓ **flexible use**
- option for transient transfections
- 2D & 3D co-culture with other cell types
- High throughput screenings
- long term cultures

brief history of upcytes

publications

- 2016 Tolosa *et al*. – Toxicological Sciences (doi: 10.1093/toxsci/kfw078)

human upcyte hepatocytes: characterization of the hepatic phenotype and evaluation for acute and long-term hepatotoxicity routine testing

University of Valencia

- 2016 Schaefer *et al*. – Drug Metabolism & Disposition (DMD # 67348)

upcyte® human hepatocytes: a potent in vitro tool for the prediction of hepatic clearance of metabolically stable compounds

Boehringer Ingelheim Biberach (DMPK)

- 2015 Levy *et al*. – Nature Biotechnology (NBT-doi:10.1038/nbt.3377)

long term culture and expansion of primary human hepatocytes

The Hebrew University of Jerusalem (Israel) / upcyte technologies GmbH

- 2015 Ramachandran *et al.* – Pharma Res Per 3(5) 2015

applicability of 2nd generation upcyte® human hepatocytes for use in CYP inhibition & induction studies

upcyte technologies

the upcyte® solution

ready-to-use cells & media //upcyte® services

cells & media

- Ready-to-use cells
  - 5 Mill cells, cryovial ready-to-use
  - license model – expand your own
- Medium
  - 100mL / 500mL
  - especially designed for upcyte cells
  - medium for primary cells

→ come along with PFU, CoA and technical support

upcyte service

- You have a specific cell type?
- You have a favourite donor?
- You have patient derived disease material?

  - milestone dependent offer
  - basic characterization of upcyted cells
  - supply of Master Cell Bank with full expansion capacity
  - unlimited license to use the upcyted cells
  - expression of recombinant & reporter genes by lentiviral transduction

upcyte® cells

generation of proliferating cells from healthy primary human cells

available cells types

- upcyte® hepatocytes (5 different donors)
- upcyte® liver sinusoidal endothelial cells
- upcyte® microvascular endothelial cells

current customer „upcyte“ projects

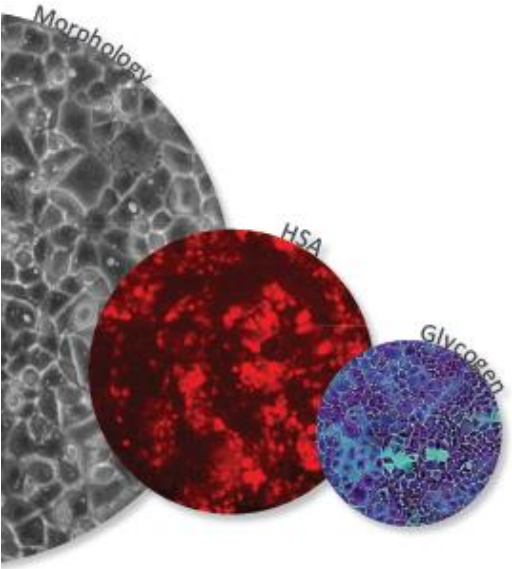
- upcyte® macrophages

Looking for partners:

- upcyte® bronchial epithelial cells
- upcyte® skeletal & smooth muscle cells
- upcyte® keratinocytes

grant project

- upcyte® Kupffer cells



Discover more!

upcyte technologies

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