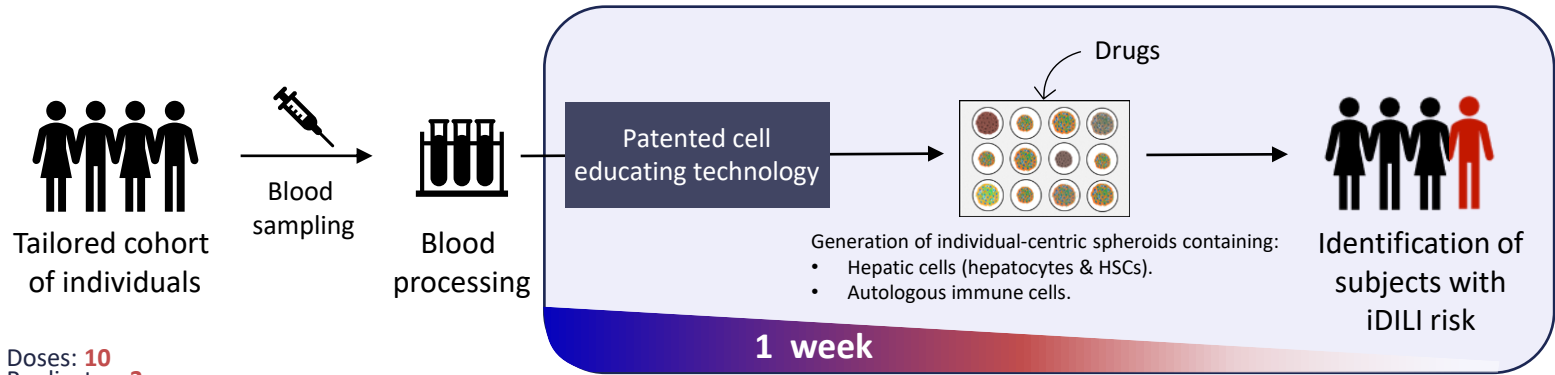# GenuineSelect-TOX platform
## Individual-centric models for iDILI detection

Secure lead compound selection by de-risking iDILI occurrence with individual-centric models

Tailored cohort of individuals → Blood sampling → Blood processing → Patented cell educating technology → Drugs / Generation of individual-centric spheroids containing:
- Hepatic cells (hepatocytes & HSCs).
- Autologous immune cells.

1 week
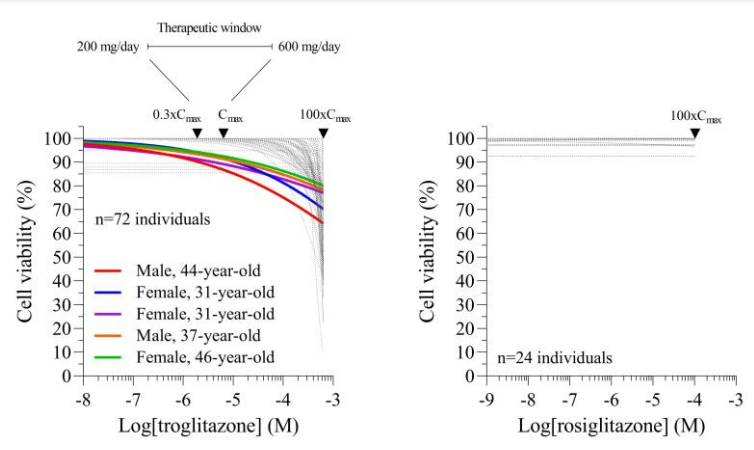
Identification of subjects with iDILI risk

Doses: **10**
Replicates: **3**
Readout: **Cell viability**
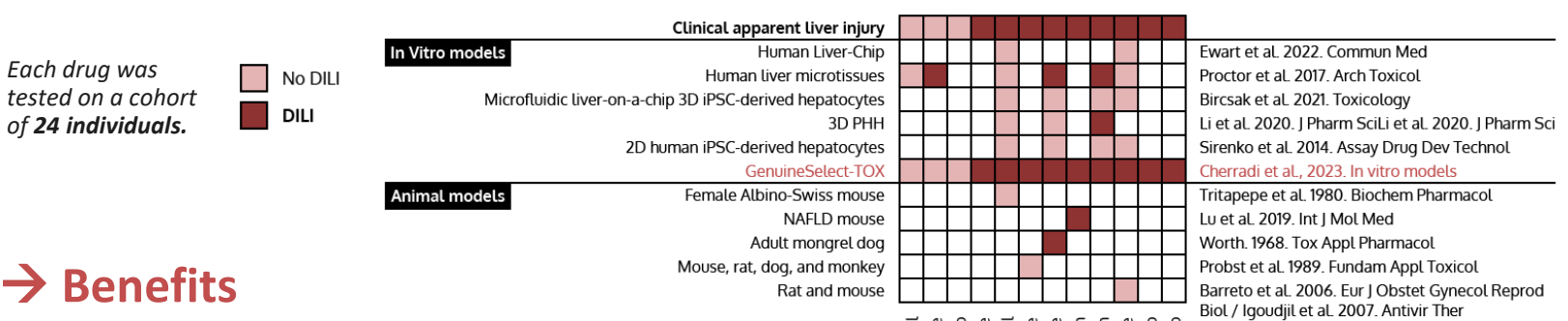Minimum cohort size (recommended): **24 individuals**

Individual dependent induction of drug metabolizing enzymes, xenobiotic sensors, and TFs
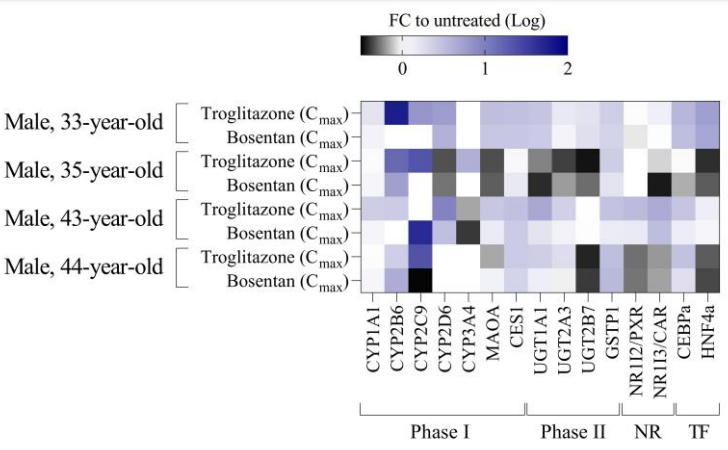
Detection of iDILI at therapeutic doses

Accurate prediction of iDILI risk of a panel of drugs with clinical apparent liver injury

Each drug was tested on a cohort of 24 individuals.

☐ No DILI
☐ DILI

	Albuterol	Flavoxate	Lenvatinib	Etoposide	β-estradiol	Nizatidine	Azathioprine	Oxaliplatin	Bosentan	Stavudine	Sorafenib	Cabozantinib	Reference
Clinical apparent liver injury													
Human Liver-Chip (In Vitro models)													Ewart et al. 2022. Commun Med
Human liver microtissues													Proctor et al. 2017. Arch Toxicol
Microfluidic liver-on-a-chip 3D iPSC-derived hepatocytes													Bircsak et al. 2021. Toxicology
3D PHH													Li et al. 2020. J Pharm Sci et al. 2020. J Pharm Sci
2D human iPSC-derived hepatocytes													Sirenko et al. 2014. Assay Drug Dev Technol
GenuineSelect-TOX													Cherradi et al., 2023. In vitro models
Female Albino-Swiss mouse (Animal models)													Tritapepe et al. 1980. Biochem Pharmacol
NAFLD mouse													Lu et al. 2019. Int J Mol Med
Adult mongrel dog													Worth. 1968. Tox Appl Pharmacol
Mouse, rat, dog, and monkey													Probst et al. 1989. Fundam Appl Toxicol
Rat and mouse													Barreto et al. 2006. Eur J Obstet Gynecol Reprod Biol / Igoudjil et al. 2007. Antivir Ther

➔ Benefits

- Analyze iDILI risk on a tailored cohort of individuals
- Get insights on age- and sex-associated iDILI risk
- De-risk DILI already at early preclinical stage
- Quick toxicity screenings for decision-making
- Improve lead compound selection
- Reduced time and costs of drug development

Cherradi *et al.*, 2023
In vitro models

Roux *et al.*, 2024
Frontiers in Pharmacology

Non-GLP drug discovery service
PredictCan Biotechnologies , Montpellier, FRANCE