MAINTAIN CYP ACTIVITY & INDUCIBILITY

INTRODUCTION

A relevant *in vitro* model should display CYP inducibility that mimics in vivo metabolic responsiveness to known modulators. This response of CYPs to induction is a critical parameter for predicting adverse drug reactions.

Materials required

- BIOMIMESYS®*Hepatocyte*
- Cryopreserved human hepatocytes
- HCM BulletKit (Lonza)
- Rifampicin, Omeprazole (inducers)
- Salicylamide (phase 2 enzymes inhibitor)
- Testosterone, Buproprion, Phenacetin (substrate)
- DNA quantitation kit, fluorescence assay using bisBenzimide (Sigma Aldrich)
- LC-MS/MS

Hydroscaffold properties

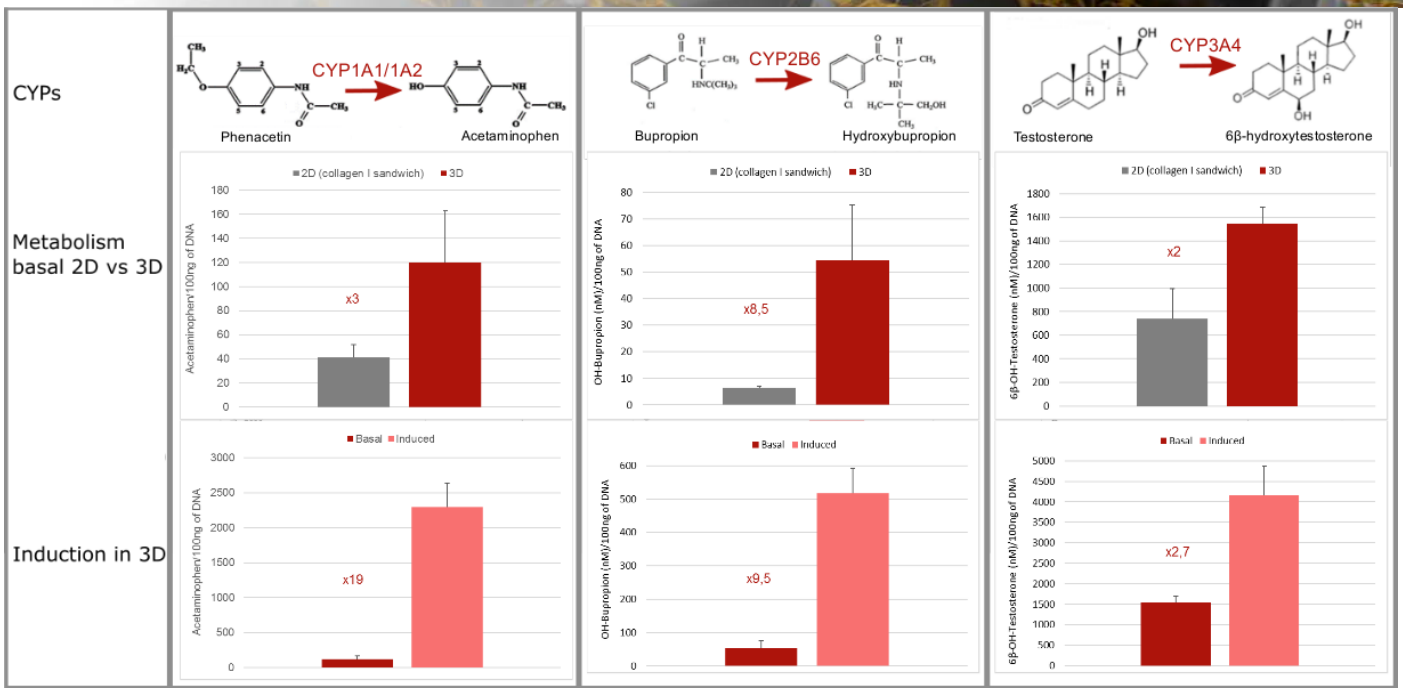
Translucent and porous

Method

- Expose hepatocytes to CYP-inducers for 48h with daily medium exchange
- Add specific substrates for 24h
- Measure the DNA quantity and quantify the metabolites by LC-MS/MS at day 6 for 2D culture (collagen I sandwich) and day 10 for 3D culture

RESULTS

Measurement of basal and induced activities of CYP1A1/1A2, CYP2B6 and CYP3A4 in cryopreserved human hepatocytes (n=3), with BIOMIMESYS®*Liver*



CONCLUSION

Basal and induced CYP1A1/A2, CYP2B6, CYP3A4 activities are higher in cryopreserved human hepatocytes using BIOMIMESYS®*Liver* compared to 2D culture conditions. BIOMIMESYS®*Liver* is a robust 3D culture system for DILI studies.

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