

# Effect of Cyanotoxins on 3D *in vitro* liver models

Riju Roy Chowdhury<sup>1</sup>, Marina Felipe Grossi<sup>1</sup>, Darshak Chandulal Gadara<sup>1</sup>, Iva Sovadinová<sup>1</sup>, Vladimír Rotrek<sup>2,3</sup>, Zdeněk Spáčil<sup>1</sup>, Pavel Babica<sup>1,4</sup>

<sup>1</sup>RECETOX, Faculty of Science, Masaryk University, Kamenice 5, Brno, Czech Republic

<sup>2</sup>Department of Biology, Faculty of Medicine, Masaryk University, Kamenice 5, Brno, Czech Republic

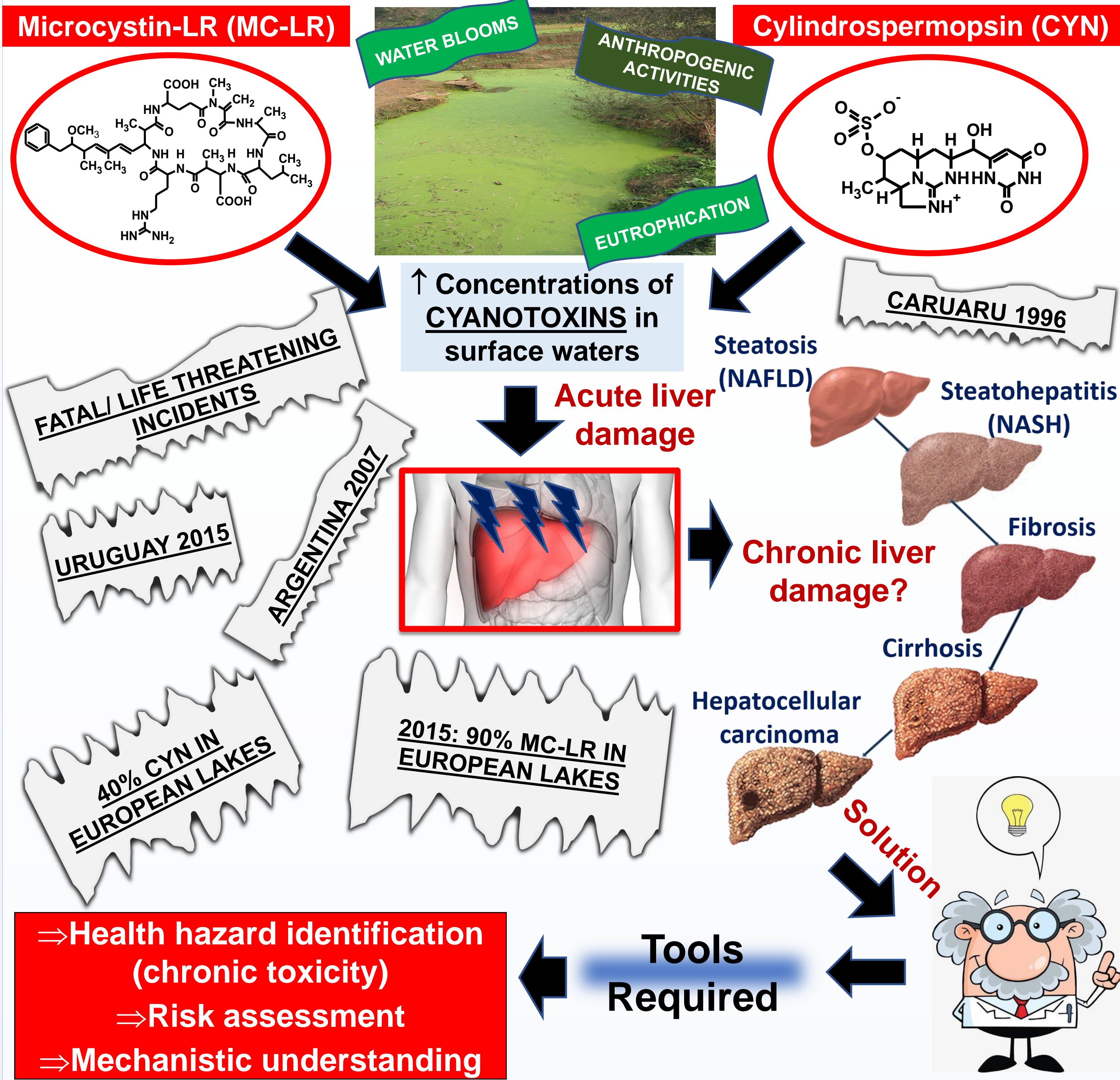
<sup>3</sup>International Clinical Research Center (ICRC), St. Anne's University Hospital, Pekařská 53, Brno, Czech Republic

<sup>4</sup>Department of Experimental Phycology and Ecotoxicology, Institute of Botany of the Czech Academy of Sciences, Lidická 25/27, Brno, Czech Republic

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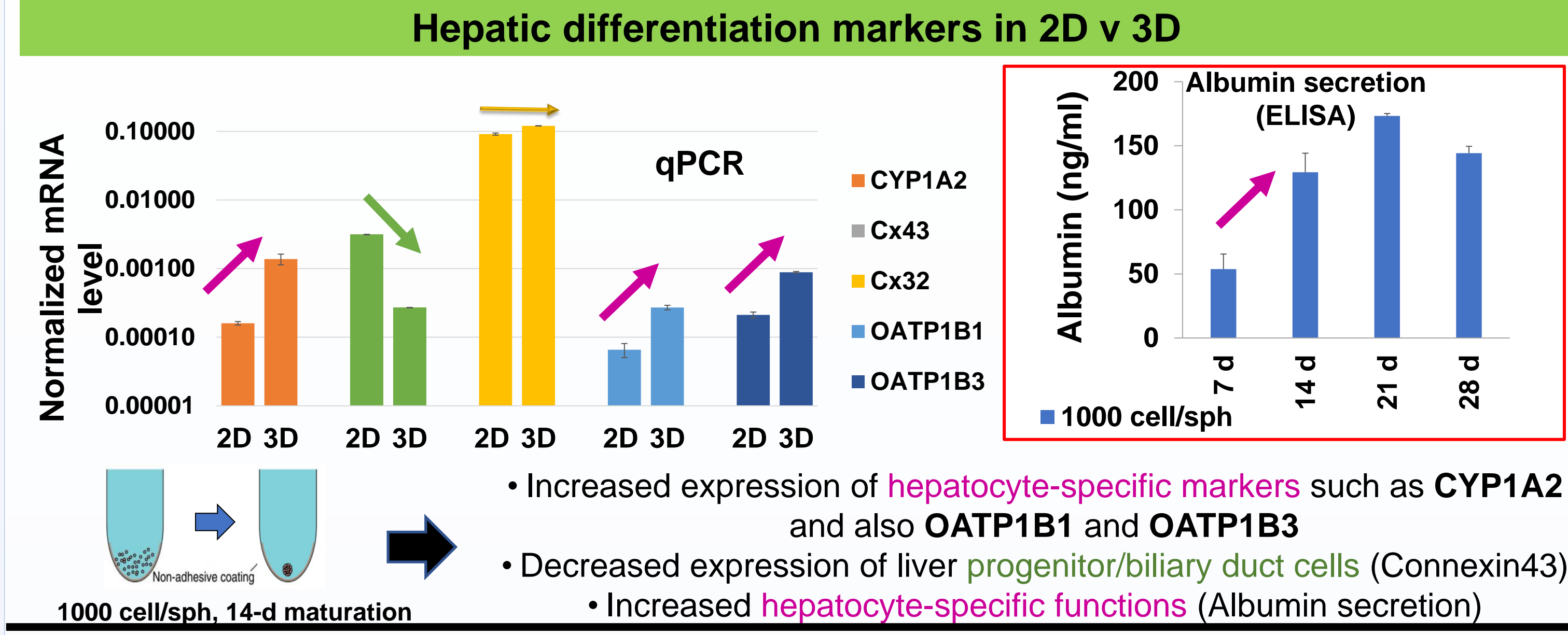
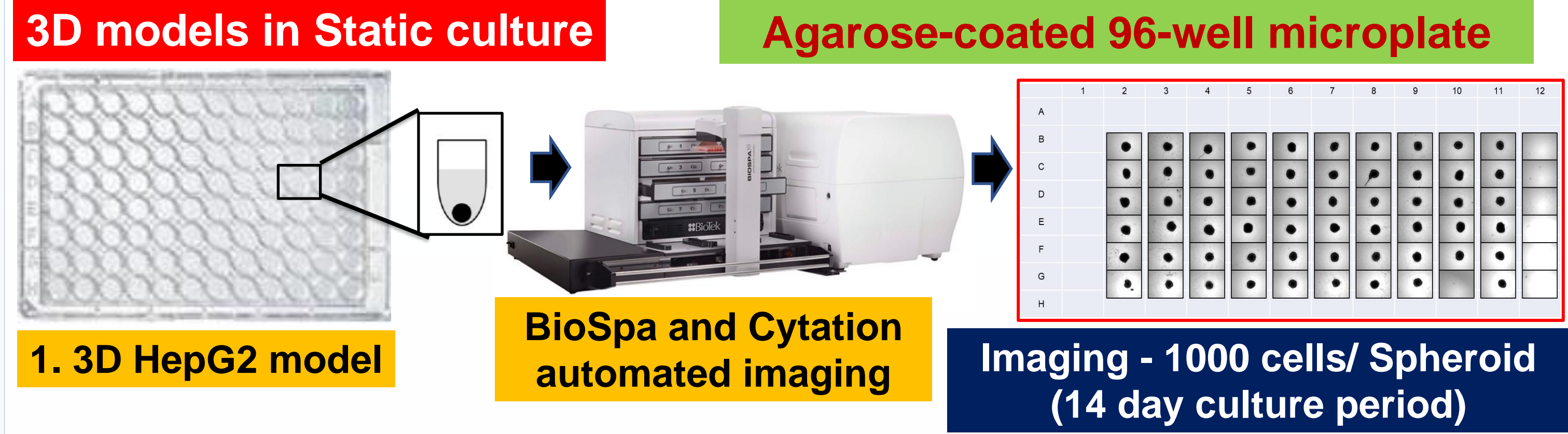
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## BACKGROUND

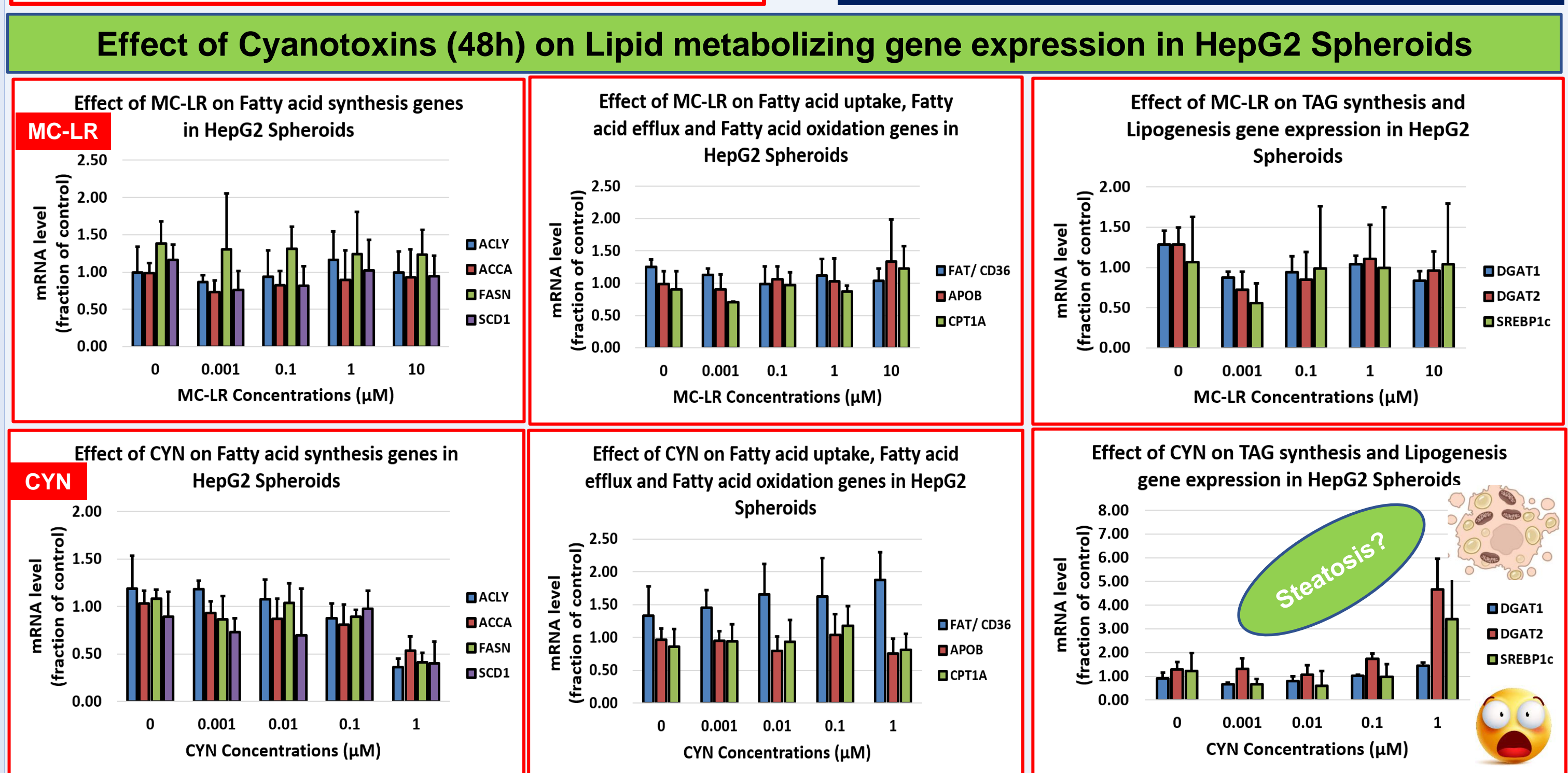
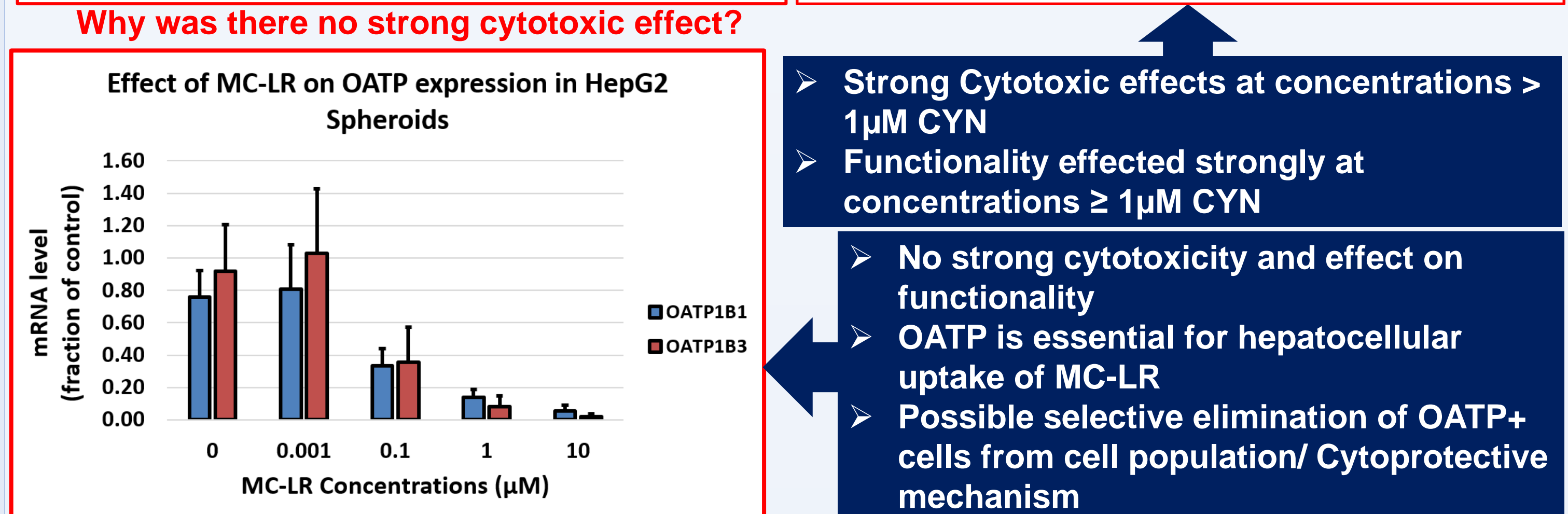
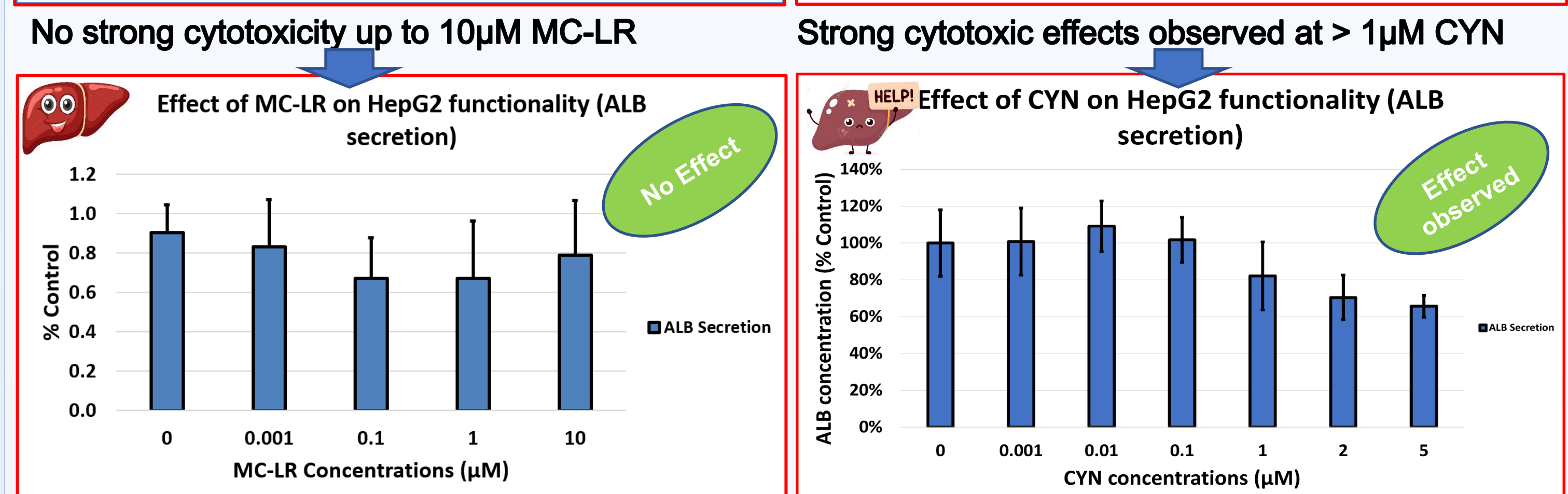
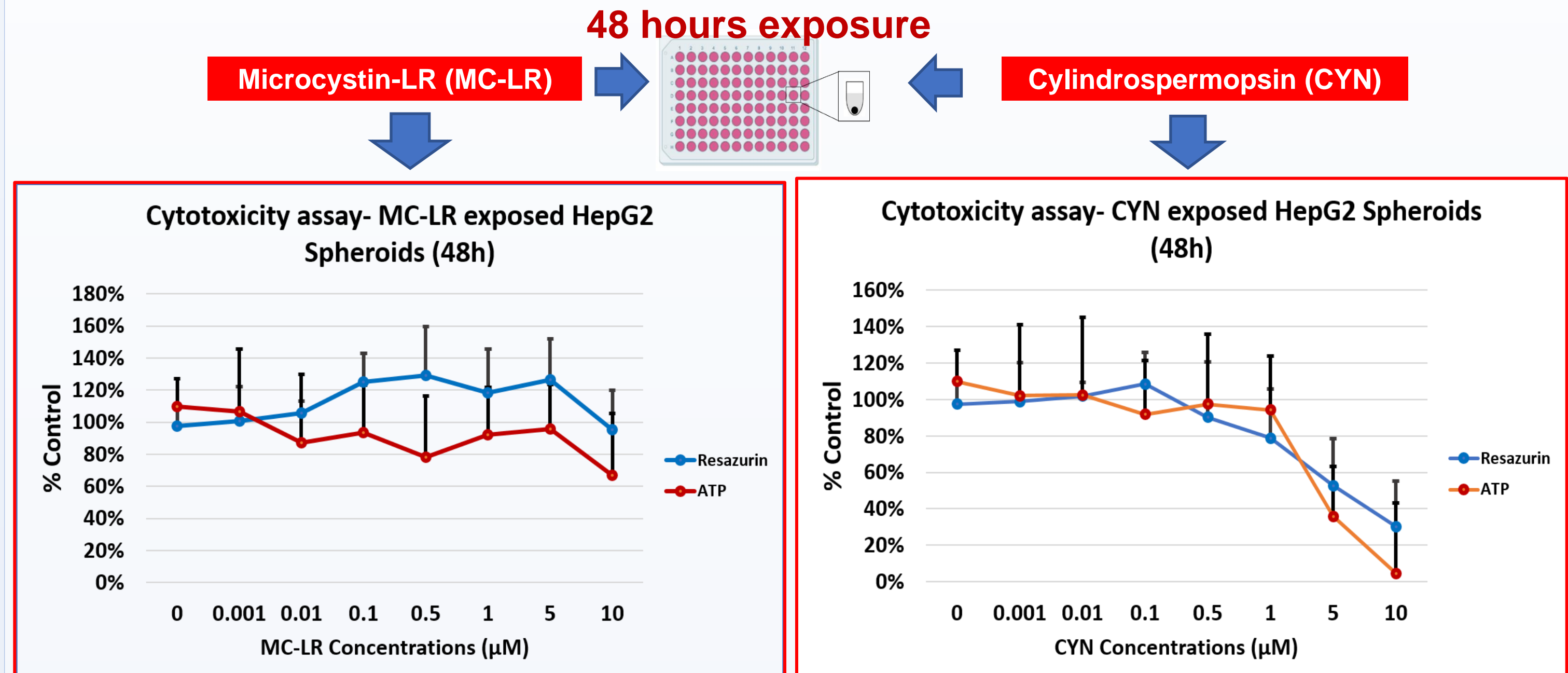


## EXPERIMENTAL DESIGN ( METHODOLOGY) W/ RESULTS

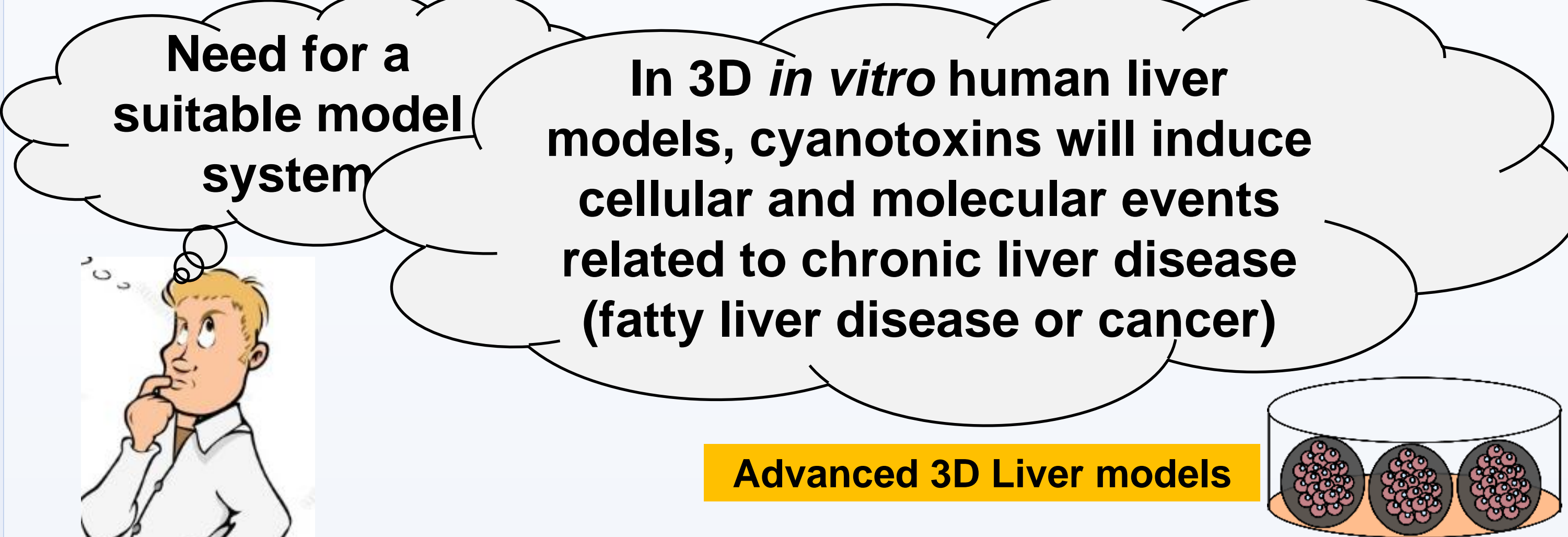
### Generation and Characterization of 3D *in vitro* liver models



### Study on the effect of Cyanotoxins on 3D HepG2 Spheroids (2wks old)



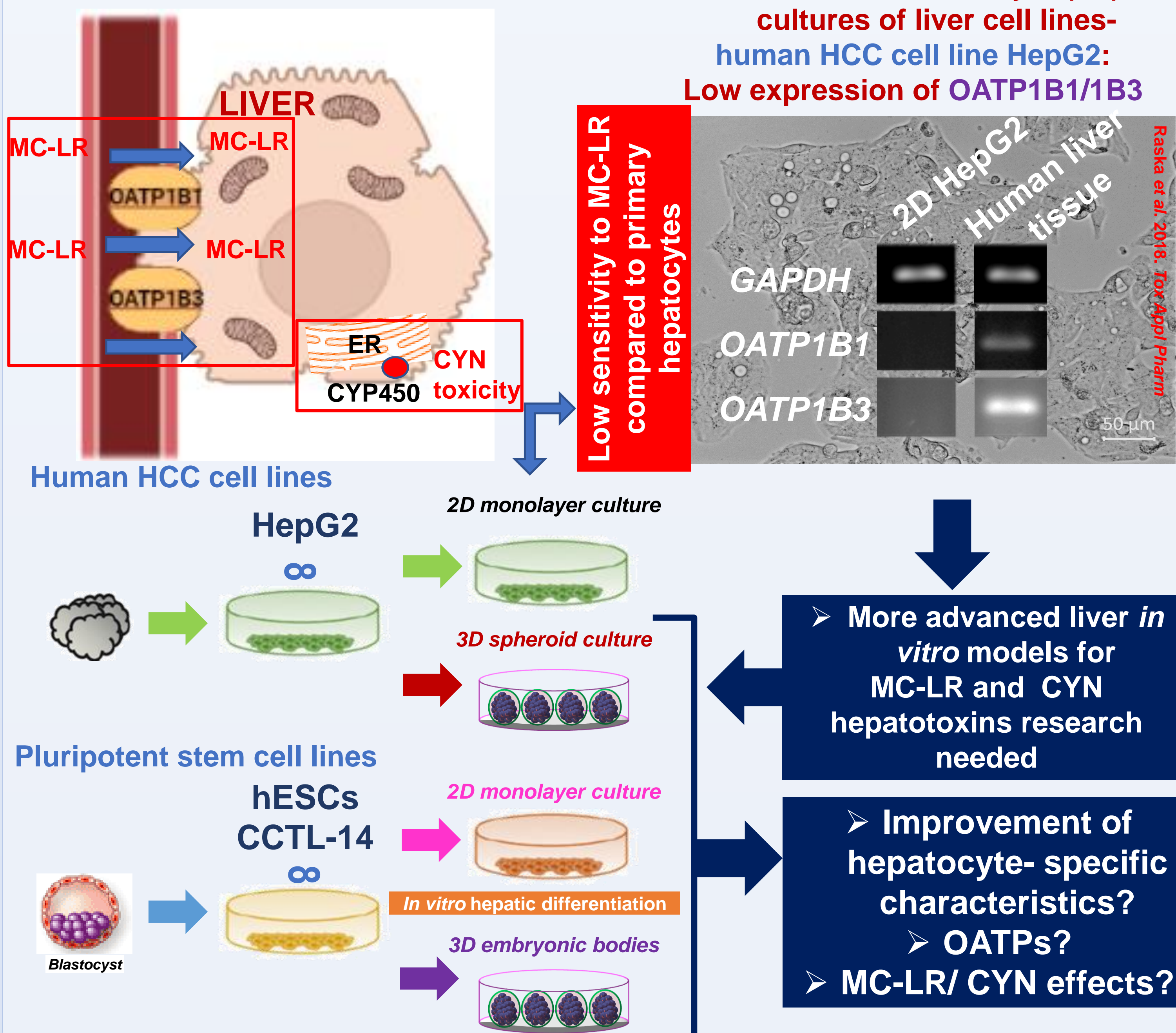
## HYPOTHESIS AND OBJECTIVES



➤ MC-LR hepatotoxicity depends on cellular uptake by organic anion transporting polypeptides OATP1B1/1B3

➤ CYN hepatotoxicity depends on Cytochrome P450 (CYP450) induction and bioactivation

➤ Traditional monolayer (2D) cultures of liver cell lines- human HCC cell line HepG2: Low expression of OATP1B1/1B3



## ACKNOWLEDGEMENTS

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## Work in Progress:

- 3D hESC- derived Hepatocyte like cells- characterization ongoing with repetitions. Seeding density optimized (12000 cells/Spheroid)
- MC-LR toxicity- to be tested in advanced 3D models (Stay abroad internship)
- HepG2 Spheroids in dynamic culture- Speed and seeding density optimized for spheroids growing in Bioreactors (Synthecon)