

# THP-1-Derived Macrophages Integrated into a 3D Hepatic Spheroid Model for Toxicity Assessment

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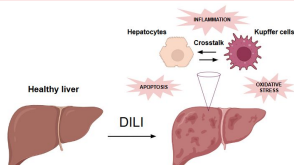


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## INTRODUCTION

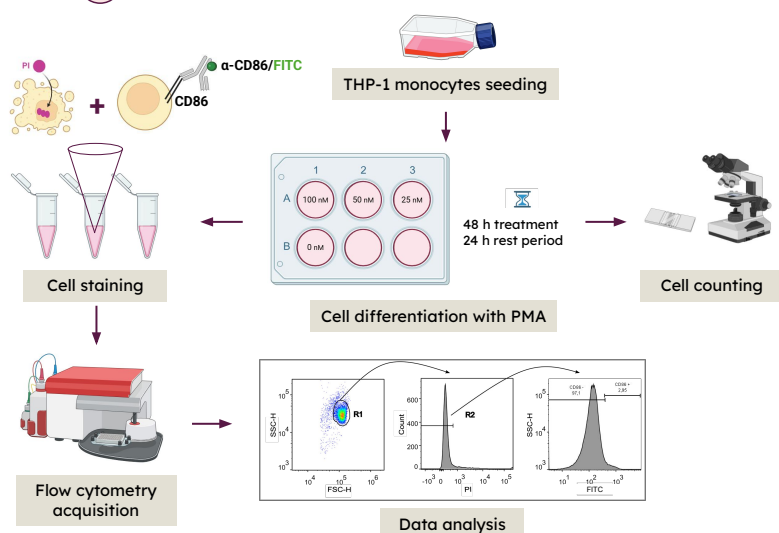
Drug-induced liver injury (DILI) is a leading cause of drug withdrawal and a major concern in drug safety. Hepatocytes are the primary targets of toxicity, while Kupffer cells, the liver's resident macrophages, play a key role in modulating inflammatory responses.



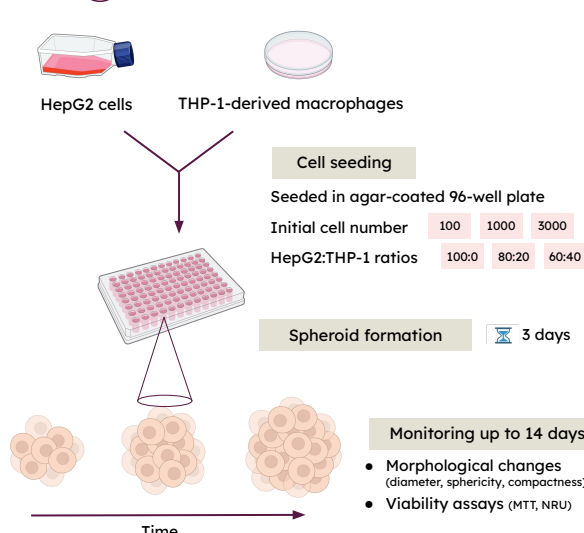
Traditional animal-based toxicity testing often lacks predictive power and involves ethical concerns. Therefore, developing human-relevant *in vitro* models that incorporate both parenchymal and immune components is essential to better predict hepatotoxicity and improve drug safety.

## MATERIALS AND METHODS

### 1 Differentiation of THP-1 cells into macrophages

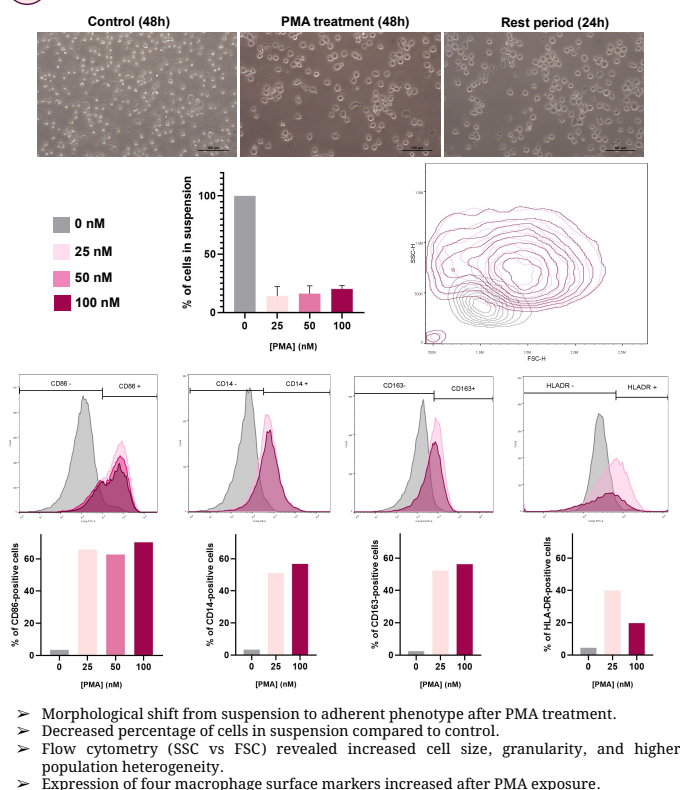


### 2 Hepatic spheroid formation

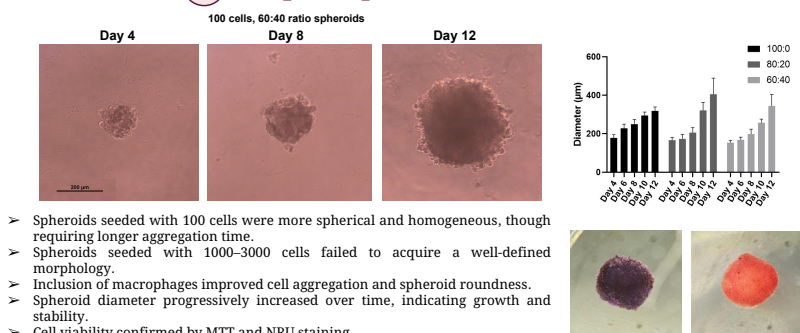


## RESULTS

### 1 Differentiation of THP-1 cells into macrophages

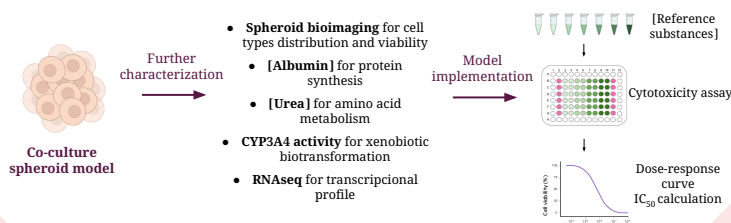


### 2 Hepatic spheroid formation



## SIGNIFICANCE AND PERSPECTIVES

This work marks a step forward in establishing a 3D hepatic model, aimed at improving *in vitro* toxicity testing by better capturing human physiology. These advances open the path for the next steps in model refinement and application.



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