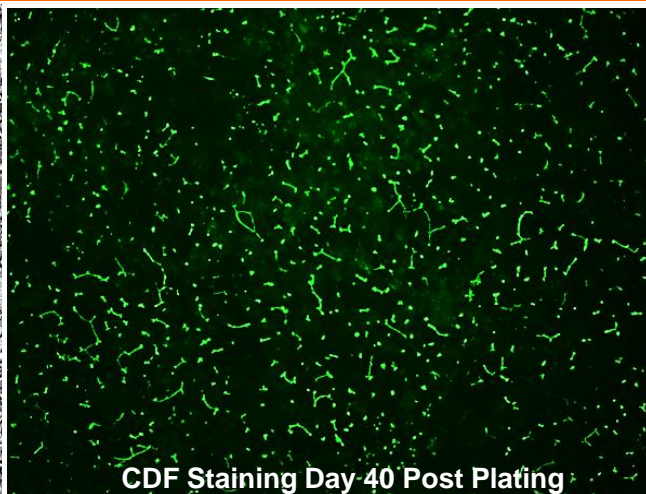
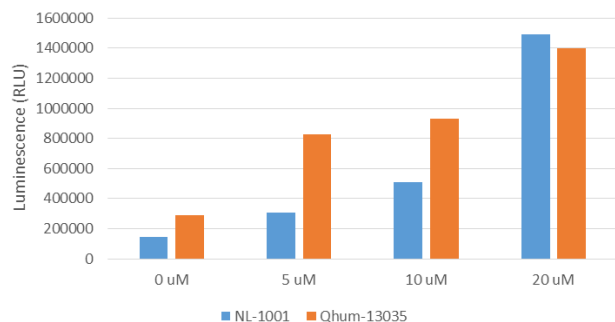


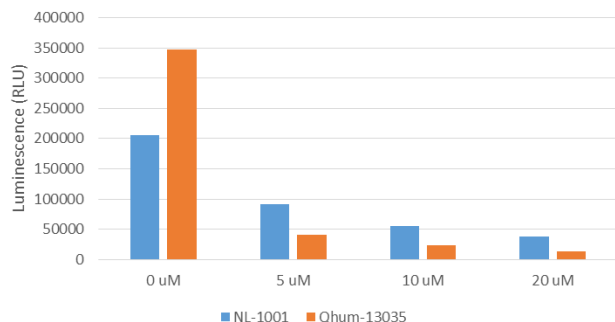
# Human / Human Hepatic Co-Culture Model Human Hepatocytes with Human Liver Stromal Cells For all Long-Term Culture Needs



CYP3A4 Induction with Rifampicin on Day 43



CYP3A4 Inhibition with Ketoconazole on Day 43



Promega CYP3A4-IPA assay was carried out  
Following Induction and Inhibition

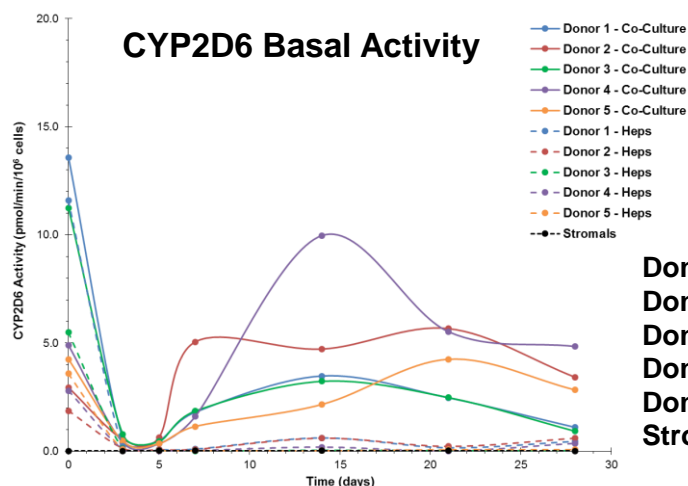
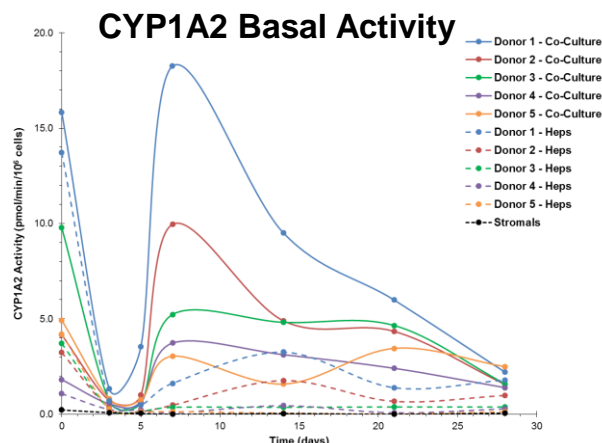
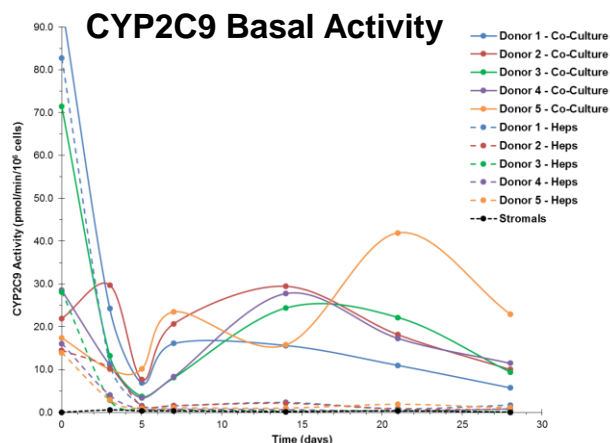
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## Human / Human Hepatic Model Highlights

- Human hepatocytes and human liver stromal cells are plated together on Collagen I
- Stromal Cells provide hepatocytes with
  - Soluble Factors
  - Extracellular matrix
  - Cell-cell interactions
- Hepatocytes remain functional in culture beyond 40 days
- Hepatocytes in co-culture don't undergo epithelial to mesenchymal transition and maintain polarity
- Hepatocytes in co-culture have relevant physiological functions
- Assays can be repeated multiple times on the same cells

# Cytochrome P450 Metabolism

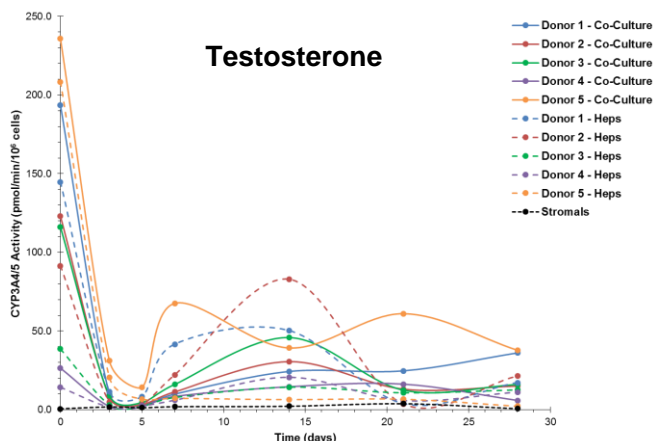
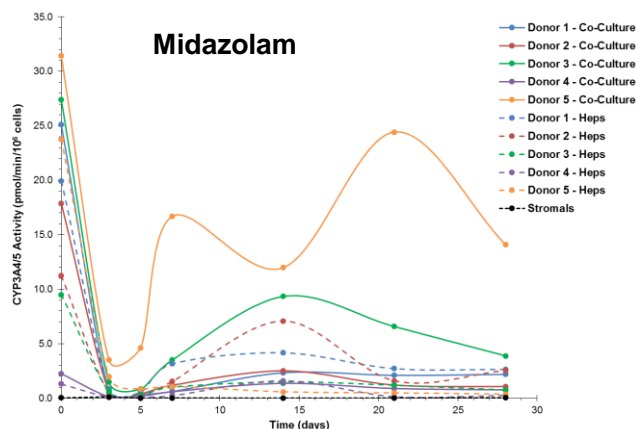
## Co-Culture vs. Hepatocytes Alone in 96-Well Format



Donor 1 = QHum13035  
 Donor 2 = QHuf15028  
 Donor 3 = LHum16081  
 Donor 4 = LHuf15908B  
 Donor 5 = NL-1001  
 Stromal = LMSC-1006

Human  
 Human  
 Hepatic Model

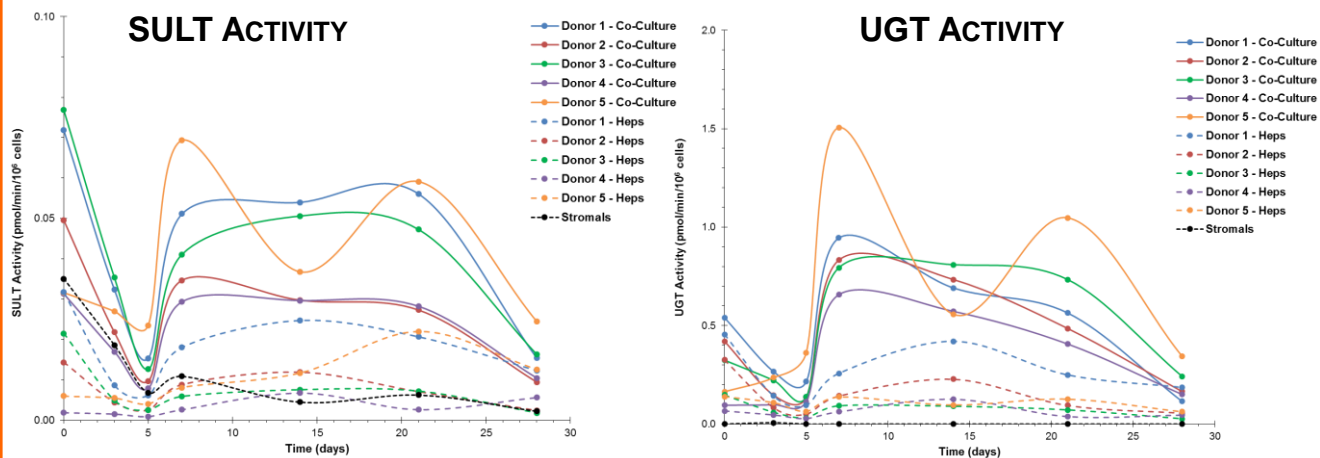
### CYP3A4/5 Basal Activity





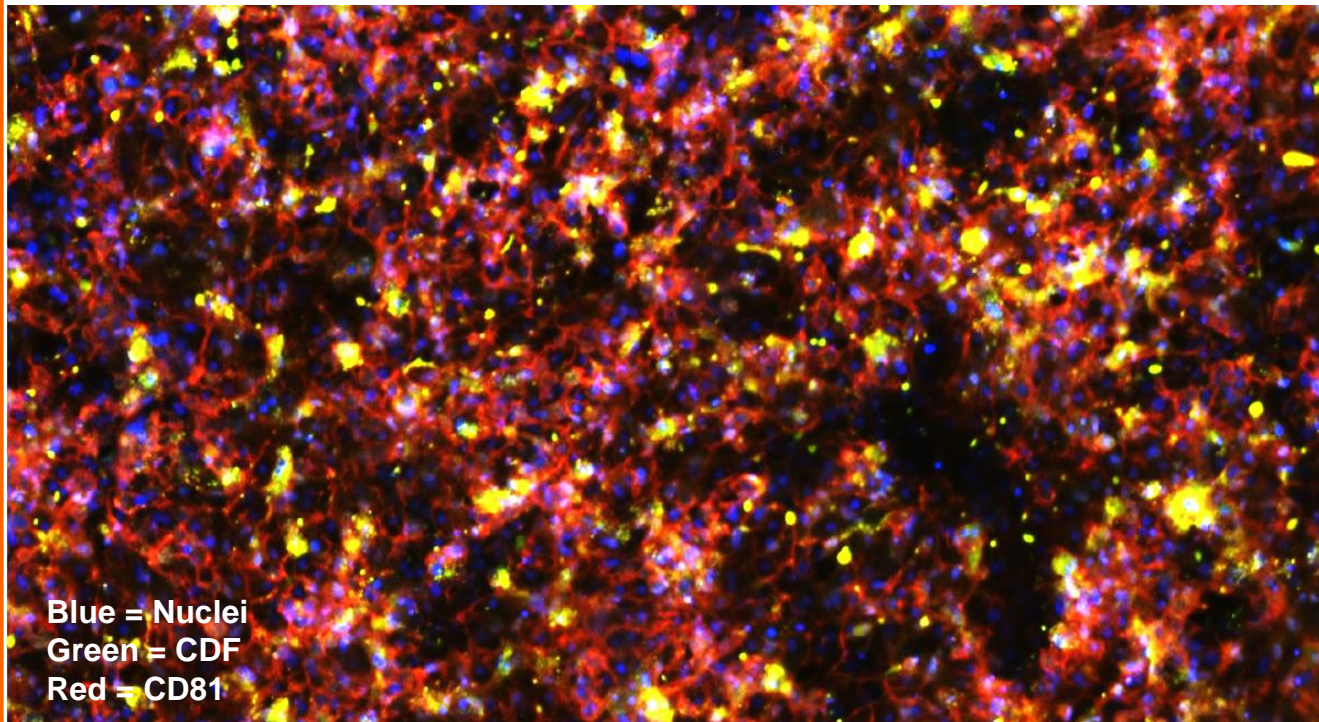
# Phase II Metabolism

## Co-Culture vs. Hepatocytes Alone in 96-Well Format



Donor 1 = QHum13035  
Donor 2 = QHuf15028  
Donor 3 = LHum16081  
Donor 4 = LHuf15908B  
Donor 5 = NL-1001  
Stromal = LMSC-1006

## Bile Canaliculi Formation In Co-Culture



CELIGO IMAGING OF QHUM-13035 ON DAY 25 POST PLATING



**PhoenixSongs Biologicals**

**Phone: 203-433-4329**

**Fax: 203-208-0664**

**Toll Free: 866-702-0260**

PhoenixSongs has developed a new hepatic co-culture model that includes human hepatocytes, human liver stromal cells and hepatocyte media for recovery of cryopreserved hepatocytes, media for thawing the stromal cells and plating of both hepatocytes and stromal cells and media for the maintenance of fresh and cryopreserved hepatocytes that when cultured together in co-culture with liver stromal cells can maintain hepatocyte function beyond 40 days in culture.

### Human / Human Hepatic Co-Culture Model

Catalog #	Description	Unit Size	Unit Cost
<b>Human Hepatocytes in Co-Culture with Human Liver Stromal Cells</b>			
	Human hepatocytes pre-plated together with human liver stromal cells on Collagen I coated 96-well plates		
PHHCCP-24	<b>Primary Human Hepatic Co-Culture Plates 24-well</b>	Ea.	\$1,250
PHHCCP-96	<b>Primary Human Hepatic Co-Culture Plates 96-wells</b>	Ea.	\$950
<b>Liver Stromal Cells – Growth Arrested</b>			
	Liver stromal cells isolated from human livers donated through the Federal Organ Procurement Organization are growth arrested and ready to be co-cultured with any donor lot of hepatocytes, hepatoblasts or stem cells		
33002-018GA	Donor Lot LMSC-18	5M Cells	\$550
33002-1006GA	Donor Lot LMSC-1006	5M Cells	\$550
33002-1007GA	Donor Lot LMSC-1007	5M Cells	\$550
33002-1009GA	Donor Lot LMSC-1009	5M Cells	\$550
33002-1012GA	Donor Lot LMSC-1012	5M Cells	\$550
<b>Human / Human Hepatic Co-Culture Model Cryopreserved Kit</b>			
	The kit contains: 1 vial Cryopreserved Human Hepatocytes 1 vial Cryopreserved Growth Arrested Human Liver Stromal Cells. 1 Bottle of CRM050 1 Bottle of HPM250 1 Bottle of HCM500		
PHHCCK	<b>Human / Human Hepatic Model Kit</b>	Ea.	\$1585

### Hepatocyte Media

Catalog #	Description	Unit Size	Unit Cost
CRM050	<b>Cryopreserved Hepatocyte Recovery Media</b> Complete serum-containing media for the recovery of cryopreserved hepatocytes. One tube should be used to recover 1-2 vials of hepatocytes upon thawing.	50ml	\$75
HPM250	<b>Hepatocyte Plating Media</b> Complete serum-containing media for plating cryopreserved human hepatocytes and human liver stromal cells. Includes basal medium, frozen supplement containing serum, glutamine and all necessary factors for attachment of hepatocytes and liver stromal cells.	250ml	\$150
HCM500	<b>Hepatocyte Culture Media</b> Complete serum-free media for maintenance of freshly isolated or cryopreserved human hepatocytes. Includes basal medium with serum-free supplement containing glutamine and all necessary factors.	500ml	\$185

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