

Product Characterization Sheet

HH1059

Human Hepatocytes, Catalog Number 82001



Classification

| | |
|--------------------------|------------|
| Plateability | Suspension |
| Number of days plateable | NA |
| Confluency | NA |
| P450 Inducibility | NA |
| Transporter activity | NA |
| Number of donors | 1 |

Donor Demographics

| | |
|---------------------|------------------|
| Gender | Male |
| Age | 65 years |
| Race | Caucasian |
| Cause of death | CVA |
| BMI | 25.3 |
| Smoking | NA |
| Alcohol | NA |
| Substance abuse | NA |
| Medical history | NA |
| Infectious diseases | HBV-, HCV-, HIV- |

Post-thaw Viability and Yield

| | |
|-----------|-------------|
| Viability | 80 % |
| Yield | 5.0 million |

Characterization: Hepatocytes were thawed using 37°C UCRM™ and centrifuged for 10 minutes at 100g. After removing the supernatant, hepatocytes were re-suspended in 4°C HQM™ and counted for viability and yield using the Trypan Blue exclusion method.

Drug Metabolism Activity

| Drug Metabolizing Enzyme | Substrate (μM) | Incubation Time (minutes) | Metabolite Quantified | Activity (pmol/minute/million cells) |
|--------------------------|-------------------------|---------------------------|-------------------------------|--------------------------------------|
| CYP1A2 | Phenacetin (100) | 15 | Acetaminophen | 109.0 |
| CYP2A6 | Coumarin (50) | 30 | 7-Hydroxycoumarin | 37.3 |
| CYP2B6 | Bupropion (500) | 15 | Hydroxybupropion | 5.1 |
| CYP2C8 | Paclitaxel (20) | 15 | 6α-Hydroxypaclitaxel | 6.2 |
| CYP2C9 | Diclofenac (25) | 15 | 4-Hydroxydiclofenac | 38.2 |
| CYP2C19 | S-Mephenytoin (250) | 30 | 4-Hydroxymephenytoin | 37.7 |
| CYP2D6 | Dextromethorphan (15) | 15 | Dextrorphan | 6.7 |
| CYP2E1 | Chlorzoxazone (250) | 15 | 6-Hydroxychlorzoxazone | 16.9 |
| CYP3A4 | Midazolam (20) | 10 | 1-Hydroxymidazolam | 8.5 |
| | Testosterone (200) | 15 | 6β-Hydroxytestosterone | 190.0 |
| ECOD | 7-Ethoxycoumarin (100) | 30 | 7-Hydroxycoumarin | 55.8 |
| UGT | 7-Hydroxycoumarin (100) | 30 | 7-Hydroxycoumarin glucuronide | 163.0 |
| Sulfotransferase | 7-Hydroxycoumarin (100) | 30 | 7-Hydroxycoumarin sulfate | 24.0 |

CYP450 Activity Assessment: The hepatocytes were incubated at a cell density of 0.5 million cells/mL in a 48-well plate (125,000 hepatocytes/well) for the designated time durations with isoform-selective substrates. The metabolites were identified and analyzed using LC-MS/MS.

IVAL cell culture media and tissue culture plates used in this evaluation:

- Recovery of thawed hepatocytes - Cat. No. 81015 - UCRM™ Universal Cryopreservation Recovery Media, 50 mL tube
- Suspension and incubation of hepatocytes - Cat. No. 81039/81040 - HQM™ Hepatocyte Incubation Media, 50 mL tube/500 mL bottle

To inquire about our products and services or for technical questions please contact:

- In Vitro ADMET Laboratories by phone at +1 (866) 458-1094 or +1 (410) 869-9037 or email at info@invitroadmet.com