

Product Characterization Sheet

HH1081

Human Hepatocytes, Catalog Number 82002



Classification

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

Donor Demographics

Gender	Female
Age	21 days
Race	Caucasian
Cause of death	Neurological deficits
BMI	NA
Smoking	No
Alcohol	No
Substance abuse	No
Medical history	Lissencephaly, polyhydramnios
Infectious diseases	HBV-, HCV-, HIV-, CMV-

Post-thaw Viability and Yield

Viability	92 %
Yield	1.8 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	22.2 ± 4.1
CYP2A6	Coumarin (50)	30	7-Hydroxycoumarin	6.7 ± 1
CYP2B6	Bupropion (500)	15	Hydroxybupropion	66 ± 27.2
CYP2C8	Paclitaxel (20)	15	6α-Hydroxypaclitaxel	-0.4 ± 0.3
CYP2C9	Diclofenac (25)	15	4-Hydroxydiclofenac	171 ± 3.4
CYP2C19	S-Mephenytoin (250)	30	4-Hydroxymephenytoin	38 ± 3.4
CYP2D6	Dextromethorphan (15)	15	Dextrorphan	11.4 ± 0.3
CYP2E1	Chlorzoxazone (250)	15	6-Hydroxychlorzoxazone	66.1 ± 8.2
CYP3A4	Midazolam (20)	10	1-Hydroxymidazolam	30 ± 0.8
	Testosterone (200)	15	6β-Hydroxytestosterone	296 ± 135
ECOD	7-Ethoxycoumarin (100)	30	7-Hydroxycoumarin	2.4 ± 0.6
UGT	7-Hydroxycoumarin (100)	30	7-Hydroxycoumarin glucuronide	98 ± 8.1
Sulfotransferase	7-Hydroxycoumarin (100)	30	7-Hydroxycoumarin sulfate	2.3 ± 0.1

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