

Product Characterization Sheet

HH1114

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	25
Race	Caucasian
Cause of death	Anoxia
BMI	30.1
Smoking	Yes
Alcohol	No
Substance abuse	Yes
Medical history	NA
Infectious diseases	HBV-, HCV-, HIV-, CMV-

Post-thaw Viability and Yield

Viability	94 %
Yield	1.6 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	8.3 ± 7.92
CYP2A6	Coumarin (50)	30	7-Hydroxycoumarin Glucuronide	0.83 ± 0.17
CYP2A6	Coumarin (50)	30	7-Hydroxycoumarin Sulfate	0.57 ± 0.23
CYP2B6	Bupropion (500)	15	Hydroxybupropion	16.1 ± 3.93
CYP2C8	Paclitaxel (20)	15	6α-hydroxypaclitaxel	2.26 ± 0.54
CYP2C9	Diclofenac (25)	15	4-OH Diclofenac	26.6 ± 6.78
CYP2C19	S-Mephenytoin (250)	30	4-OH S-Mephenytoin	0.82 ± 0.28
CYP2D6	Dextromethorphan (15)	15	Dextrophan	7.44 ± 1.16
CYP2E1	Chlorzoxazone (250)	15	6-OH Chlorzoxazone	34.8 ± 3.21
CYP3A4-1	Midazolam (20)	10	1-Hydroxymidazolam	0.18 ± 0.11
CYP3A4-2	Testosterone (200)	15	6β-hydroxytestosterone	0.2 ± 0.3
ECOD	7-Ethoxycoumarin (100)	30	7-HC, 7-HC-Sulfate, 7-HC-Glucuronide	10.6 ± 0.77
ECOD	7-Ethoxycoumarin (100)	30	7-Hydroxycoumarin	3.3 ± 0.56
ECOD	7-Ethoxycoumarin (100)	30	7-Hydroxycoumarin Glucuronide	5.81 ± 0.28
ECOD	7-Ethoxycoumarin (100)	30	7-Hydroxycoumarin Sulfate	1.57 ± 0.16
UGT	7-Hydroxycoumarin (100)	30	7-Hydroxycoumarin Glucuronide	156 ± 2.52
SULT	7-Hydroxycoumarin (100)	30	7-Hydroxycoumarin Sulfate	9.54 ± 2.57
FMO	Benzylamine HCl (250)	30	Benzylamine-N-Oxide	10.2 ± 4.3
MAO	Kynuramine HCl (160)	30	4-hydroxyquinoline	58.1 ± 5.73
AO	Carbazeran HCl (10)	30	4-Hydroxycarbazeran	3.87 ± 0.16
NAT1	4-Aminobenzoic HCl (200)	30	N-Acetyl-p-aminobenzoic acid	11.1 ± 0.57
NAT2	Sulfamethazine (100)	30	N-Acetyl-sulfamethazine	7.95 ± 0.98

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