

Product Characterization Sheet

HH1129

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	Gestational period of 41 weeks
Race	Caucasian
Cause of death	Anencephaly
BMI	NA
Smoking	No
Alcohol	No
Substance abuse	No
Medical history	NA
Infectious diseases	NA

Post-thaw Viability and Yield

Viability	90 %
Yield	5.5 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)	Metabolite Quantified	Activity 30 minutes (pmol/minute/million cells)	Activity 60 minutes (pmol/minute/million cells)	Activity 120 minutes (pmol/minute/million cells)	Activity 240 minutes (pmol/minute/million cells)
CYP1A2	Phenacetin (100)	Acetaminophen	0.06 ± 0.05	0 ± 0.06	0.09 ± 0.01	0.11 ± 0.01
CYP2A6	Coumarin (50)	7-HC, 7-HC-Sulfate, 7-HC-Glucuronide	0.28 ± 0.11	0.22 ± 0.01	0.23 ± 0.02	0.17 ± 0.05
CYP2A6	Coumarin (50)	7-Hydroxycoumarin	0.14 ± 0.01	0.102 ± 0.021	0.158 ± 0.021	0.1 ± 0.02
CYP2A6	Coumarin (50)	7-Hydroxycoumarin Glucuronide	0.1 ± 0.1	0.08 ± 0.03	0.02 ± 0.03	0.024 ± 0.039
CYP2A6	Coumarin (50)	7-Hydroxycoumarin Sulfate	0.04 ± 0.01	0.047 ± 0.007	0.054 ± 0.013	0.049 ± 0.007
CYP2B6	Bupropion (500)	Hydroxybupropion	0.33 ± 0.11	0.5 ± 0.16	0.45 ± 0.08	0.42 ± 0.07
CYP2C8	Paclitaxel (20)	6α-hydroxypaclitaxel	0.52 ± 0.21	0.22 ± 0.03	0.11 ± 0.07	0.06 ± 0.03
CYP2C9	Diclofenac (25)	4-OH Diclofenac	1.26 ± 0.15	1.65 ± 0.07	2.49 ± 0.52	1.73 ± 0.1
CYP2C19	S-Mephenytoin (250)	4-OH S-Mephenytoin	-0.1 ± 0.08	0.02 ± 0.02	BQL	BQL
CYP2D6	Dextromethorphan (15)	Dextrophan	0.2 ± 0.05	0.2 ± 0.01	0.22 ± 0.04	0.2 ± 0.02
CYP2E1	Chlorzoxazone (250)	6-OH Chlorzoxazone	25.93 ± 1.21	15.53 ± 1.37	15.37 ± 0.68	11.68 ± 1.21
CYP3A4-1	Midazolam (20)	1-Hydroxymidazolam	3.53 ± 0.12	2.83 ± 0.09	2.51 ± 0.19	2.53 ± 0.29
CYP3A4-2	Testosterone (200)	6β-hydroxytestosterone	27.3 ± 2.98	33.6 ± 1.76	37.6 ± 10.34	23.3 ± 0.63
ECOD	7-Ethoxycoumarin (100)	7-HC, 7-HC-Sulfate, 7-HC-Glucuronide	2.29 ± 0.16	2.38 ± 0.14	2.12 ± 0.1	1.57 ± 0.09
ECOD	7-Ethoxycoumarin (100)	7-Hydroxycoumarin	2.06 ± 0.18	2.1 ± 0.1	1.75 ± 0.07	1.06 ± 0.06
ECOD	7-Ethoxycoumarin (100)	7-Hydroxycoumarin Glucuronide	BQL	0.007 ± 0.01	0.004 ± 0.01	0.05 ± 0.05
ECOD	7-Ethoxycoumarin (100)	7-Hydroxycoumarin Sulfate	0.23 ± 0.01	0.32 ± 0	0.37 ± 0	0.46 ± 0.04
UGT	7-Hydroxycoumarin (100)	7-Hydroxycoumarin Glucuronide	2.77 ± 0.33	9 ± 0.59	15.28 ± 1.2	29.7 ± 1.78
SULT	7-Hydroxycoumarin (100)	7-Hydroxycoumarin Sulfate	4.14 ± 0.16	3.74 ± 0.18	3.74 ± 0.34	3.74 ± 0.16
GST	Acetaminophen (10)	Acetaminophen Glutathione	6.5 ± 0.76	3.65 ± 0.46	0.63 ± 0.04	1.59 ± 0.12
UGT	Acetaminophen (10)	Acetaminophen Glucuronide	5.6 ± 0.4	7.67 ± 0.95	8.91 ± 0.82	16.6 ± 0.94
SULT	Acetaminophen (10)	Acetaminophen Sulfate	24.4 ± 1.6	16.6 ± 1.48	15.3 ± 1.28	20.9 ± 3.13
FMO	Benzydamine HCl (250)	Benzydamine-N-Oxide	4.22 ± 0.68	8.64 ± 0.39	7.08 ± 0.88	6.33 ± 0.93

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MAO	Kynuramine HCl (160)	4-hydroxyquinoline	47 ± 3.2	81 ± 4.5	68.6 ± 4.79	127 ± 8.33
AO	Carbazeran HCl (10)	4-Hydroxycarbazeran	0.23 ± 0.04	0.16 ± 0.02	0.38 ± 0.03	0.23 ± 0.01
NAT1	4-Aminobenzoic HCl (200)	N-Acetyl-p-aminobenzoic acid	9.89 ± 1.06	4.54 ± 0.45	3.03 ± 0.19	4.8 ± 0.46
NAT2	Sulfamethazine HCl (100)	N-Acetyl-sulfamethazine	0.74 ± 0.08	0.25 ± 0.07	0.47 ± 0.02	0.57 ± 0.11

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