

Product Characterization Sheet

RSE3092

Rat Enterocytes, Catalog Number 82099



Classification

Plateability	Suspension
Number of days plateable	NA
Confluency	NA
Number of donors	12

Donor Demographics

Gender	Male
Strain	Sprague Dawley
Age	7-10 weeks
Infectious diseases	Negative

Post-thaw Viability and Yield

Viability	69 %
Yield	1.9 million

Characterization: Enterocytes were thawed using 37°C CERM™ and centrifuged for 10 minutes at 100g. After removing the supernatant, enterocytes 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	169 ± 33
CYP2A6	Coumarin (50)	15	7-HC, 7-HC-Sulfate, 7-HC-Glucuronide	0.16 ± 0.015
CYP2A6	Coumarin (50)	15	7-Hydroxycoumarin	0.15 ± 0.01
CYP2A6	Coumarin (50)	15	7-Hydroxycoumarin Glucuronide	0.017 ± 0.003
CYP2A6	Coumarin (50)	15	7-Hydroxycoumarin Sulfate	0 ± 0
CYP2B6	Bupropion (500)	15	Hydroxybupropion	0.32 ± 0.06
CYP2C8	Paclitaxel (20)	15	6α-hydroxypaclitaxel	0 ± 0
CYP2C9	Diclofenac (25)	15	4-OH Diclofenac	0.99 ± 0.02
CYP2C19	S-Mephenytoin (250)	15	4-OH S-Mephenytoin	0 ± 0
CYP2D6	Dextromethorphan (15)	15	Dextrophan	0 ± 0
CYP2E1	Chlorzoxazone (250)	15	6-OH Chlorzoxazone	4.31 ± 0.02
CYP3A4-1	Midazolam (20)	15	1-Hydroxymidazolam	0.03 ± 0.011
CYP3A4-2	Testosterone (200)	15	6β-hydroxytestosterone	1.32 ± 0.04
ECOD	7-Ethoxycoumarin (100)	15	7-HC, 7-HC-Sulfate, 7-HC-Glucuronide	0.147 ± 0.08
ECOD	7-Ethoxycoumarin (100)	15	7-Hydroxycoumarin	0.092 ± 0.071
ECOD	7-Ethoxycoumarin (100)	15	7-Hydroxycoumarin Glucuronide	0.05 ± 0.01
ECOD	7-Ethoxycoumarin (100)	15	7-Hydroxycoumarin Sulfate	0 ± 0
UGT	7-Hydroxycoumarin (100)	15	7-Hydroxycoumarin Glucuronide	0.31 ± 0.06
SULT	7-Hydroxycoumarin (100)	15	7-Hydroxycoumarin Sulfate	0.08 ± 0.002
GST	Acetaminophen (10)	15	Acetaminophen Glutathione	0.08 ± 0.02
UGT	Acetaminophen (10)	15	Acetaminophen Glucuronide	0.046 ± 0.031
SULT	Acetaminophen (10)	15	Acetaminophen Sulfate	0.076 ± 0.024
FMO	Benzydamine HCl (250)	15	Benzydamine-N-Oxide	3.86 ± 0.02
MAO	Kynuramine HCl (160)	15	4-hydroxyquinoline	28.1 ± 1.9
AO	Carbazeran HCl (10)	15	4-Hydroxycarbazeran	0.028 ± 0.006
NAT1	4-Aminobenzoic HCl (200)	15	N-Acetyl-p-aminobenzoic acid	4.55 ± 0.22
NAT2	Sulfamethazine (100)	15	N-Acetyl-sulfamethazine	1.69 ± 0.03
1A1	7-EROD (100)	15	Resozufin	0 ± 0
2J2	Astemizole (50)	15	O-Demethyl Astemizole	6.95 ± 0.22
CES2	Irinotecan (50)	15	SN38	1.96 ± 0.2

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CYP450 Activity Assessment: The enterocytes were incubated at a cell density of 1.5 million enterocytes/mL in a 96-well plate (150,000 enterocytes/well) for the designated time duration of 120 minutes with isoform-selective substrates. The metabolites were identified and analyzed using LC-MS/MS.

Enterocyte Morphology: Enterocyte cell size is approximately 12 – 17 microns in diameter. Lymphocytes are approximately 4 microns and may also be observed in the enterocyte cell population.

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

- Recovery of thawed enterocytes - Cat. No. 81056 - CERM™ Cryopreserved Enterocyte Recovery Media, 50 mL tube
- Suspension and incubation of enterocytes - Cat. No. 81039 - HQM™ Hepatocyte and Enterocyte Incubation Media, 50 mL tube

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