

Product Characterization Sheet

REX3094

MetMax™ Rat Enterocytes, Catalog Number 82135



Specification

Number of donors	12
Volume	1.0 mL
Cell concentration	2.0 x 10 ⁶ /mL
Plateability	Suspension

Demographics

Gender	Male
Strain	Sprague Dawley
Age	8-12 weeks
Infectious diseases	Negative

Drug Metabolism Activity

Drug Metabolizing Enzyme	Substrate (μM)	Metabolite Quantified	Activity (pmol/minute/ million cells)
CYP1A2	Phenacetin (100)	Acetaminophen	77.6 ± 12.8
CYP2A6	Coumarin (50)	7-HC, 7-HC-Sulfate, 7-HC-Glucuronide	0 ± 0
CYP2A6	Coumarin (50)	7-Hydroxycoumarin	0 ± 0
CYP2A6	Coumarin (50)	7-Hydroxycoumarin Glucuronide	0 ± 0
CYP2A6	Coumarin (50)	7-Hydroxycoumarin Sulfate	0 ± 0
CYP2B6	Bupropion (500)	Hydroxybupropion	1.87 ± 0.62
CYP2C8	Paclitaxel (20)	6α-hydroxypaclitaxel	0.02 ± 0.01
CYP2C9	Diclofenac (25)	4-OH Diclofenac	2.7 ± 0.05
CYP2C19	S-Mephenytoin (250)	4-OH S-Mephenytoin	0 ± 0
CYP2D6	Dextromethorphan (15)	Dextrophan	0 ± 0
CYP2E1	Chlorzoxazone (250)	6-OH Chlorzoxazone	4.46 ± 0.08
CYP3A4-1	Midazolam (20)	1-Hydroxymidazolam	0.86 ± 0.03
CYP3A4-2	Testosterone (200)	6β-hydroxytestosterone	0 ± 0
ECOD	7-Ethoxycoumarin (100)	7-HC, 7-HC-Sulfate, 7-HC-Glucuronide	371 ± 19.3
ECOD	7-Ethoxycoumarin (100)	7-Hydroxycoumarin	368 ± 19
ECOD	7-Ethoxycoumarin (100)	7-Hydroxycoumarin Glucuronide	0 ± 0
ECOD	7-Ethoxycoumarin (100)	7-Hydroxycoumarin Sulfate	3.37 ± 0.92
UGT	7-Hydroxycoumarin (100)	7-Hydroxycoumarin Glucuronide	12.8 ± 0.64
SULT	7-Hydroxycoumarin (100)	7-Hydroxycoumarin Sulfate	0 ± 0
GST	Acetaminophen (10)	Acetaminophen Glutathione	0.37 ± 0.1
UGT	Acetaminophen (10)	Acetaminophen Glucuronide	0 ± 0
SULT	Acetaminophen (10)	Acetaminophen Sulfate	0 ± 0
FMO	Benzydamine HCl (250)	Benzydamine-N-Oxide	2.89 ± 0.02
MAO	Kynuramine HCl (160)	4-hydroxyquinoline	11.2 ± 3.5
AO	Carbazeran HCl (10)	4-Hydroxycarbazeran	0.000
NAT1	4-Aminobenzoic HCl (200)	N-Acetyl-p-aminobenzoic acid	7.17 ± 0.38
NAT2	Sulfamethazine (100)	N-Acetyl-sulfamethazine	2.06 ± 0.17
1A1	7-EROD (100)	Resozufin	0 ± 0
2J2	Astemizole (50)	O-Demethyl Astemizole	4.06 ± 0.14
CES2	Irinotecan (50)	SN38	1.31 ± 0.18

CYP450 Activity Assessment: MetMax™ enterocytes were thawed in a 37°C water bath. A 1000 μL Eppendorf pipette (with tip) was used to pipet up and down three times to achieve homogeneity. MetMax™ enterocytes were prepared at a density of 2 million cells per mL. Equal volumes of MetMax™ enterocytes and 2X substrate were incubated for 15 minutes with isoform-selective substrates at 37°C. The final cell density of MetMax™ enterocytes and substrate was 1.0 million cells/mL in a 96-well plate (96 well plates pre-loaded with 50 μL of 2X substrates per well, and metabolism initiated by adding 50 μL of MetMax™ enterocytes to each of the wells, 100,000 hepatocytes/well). The metabolites were identified and analyzed using LC-MS/MS.

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

- Substrate preparation for incubation of hepatocytes - Cat. No. 81039/81040 - HQM™ Hepatocyte Incubation Media, 50 mL tube/500 mL bottle

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

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