

Product Characterization Sheet

PHHX8017

MetMax™ Pooled Human Hepatocytes, Catalog Number 82131



Specification

Number of donors	5
Volume	2.5 mL
Cell concentration	2.0 x 10 ⁶ /mL

Drug Metabolism Activity

Drug Metabolizing Enzyme	Substrate (μM)	Metabolite Quantified	Activity (pmol/minute/ million cells)
CYP1A2	Phenacetin (100)	Acetaminophen	311 ± 49.07
CYP2A6	Coumarin (50)	7-HC, 7-HC-Sulfate, 7-HC-Glucuronide	102 ± 11
CYP2A6	Coumarin (50)	7-Hydroxycoumarin	71.2 ± 9.2
CYP2A6	Coumarin (50)	7-Hydroxycoumarin Glucuronide	14.2 ± 2.12
CYP2A6	Coumarin (50)	7-Hydroxycoumarin Sulfate	16.5 ± 0.44
CYP2B6	Bupropion (500)	Hydroxybupropion	101 ± 11.9
CYP2C8	Paclitaxel (20)	6α-hydroxypaclitaxel	22.3 ± 4.54
CYP2C9	Diclofenac (25)	4-OH Diclofenac	62.6 ± 6.75
CYP2C19	S-Mephenytoin (250)	4-OH S-Mephenytoin	27.4 ± 1.27
CYP2D6	Dextromethorphan (15)	Dextrophan	8.6 ± 1.8
CYP2E1	Chlorzoxazone (250)	6-OH Chlorzoxazone	45.8 ± 6
CYP3A4-1	Midazolam (20)	1-Hydroxymidazolam	131.3 ± 12.1
CYP3A4-2	Testosterone (200)	6β-hydroxytestosterone	1718 ± 425
ECOD	7-Ethoxycoumarin (100)	7-HC, 7-HC-Sulfate, 7-HC-Glucuronide	705 ± 49.5
ECOD	7-Ethoxycoumarin (100)	7-Hydroxycoumarin	682 ± 36
ECOD	7-Ethoxycoumarin (100)	7-Hydroxycoumarin Glucuronide	15.6 ± 2.64
ECOD	7-Ethoxycoumarin (100)	7-Hydroxycoumarin Sulfate	18.01 ± 1.35
UGT	7-Hydroxycoumarin (100)	7-Hydroxycoumarin Glucuronide	60 ± 3.48
SULT	7-Hydroxycoumarin (100)	7-Hydroxycoumarin Sulfate	24.8 ± 2.91
GST	Acetaminophen (10)	Acetaminophen Glutathione	131 ± 5.2
UGT	Acetaminophen (10)	Acetaminophen Glucuronide	22 ± 2.7
SULT	Acetaminophen (10)	Acetaminophen Sulfate	21.2 ± 2.4
FMO	Benzydamine HCl (250)	Benzydamine-N-Oxide	159 ± 32.6
MAO	Kynuramine HCl (160)	4-hydroxyquinoline	474 ± 37.2
AO	Carbazeran HCl (10)	4-Hydroxycarbazeran	21.7 ± 3.38
NAT1	4-Aminobenzoic HCl (200)	N-Acetyl-p-aminobenzoic acid	9.93 ± 1.13
NAT2	Sulfamethazine (100)	N-Acetyl-sulfamethazine	10.1 ± 0.29

CYP450 Activity Assessment: MetMax™ pooled human hepatocytes 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™ hepatocytes were prepared at a density of 2 million cells per mL. Equal volumes of MetMax™ hepatocytes and 2X substrate were incubated for 15 minutes with isoform-selective substrates at 37°C. The final cell density of MetMax™ hepatocytes 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™ hepatocytes to each of the wells, 100,000 hepatocytes/well). The metabolites were identified and analyzed using LC-MS/MS.

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Donor Demographics

	Donor 1	Donor 2	Donor 3	Donor 4	Donor 5
Gender	Male	Male	Female	Male	Female
Age	41 years	44 years	46	30 years	41 years
Race	African American	Hispanic	Hispanic	Caucasian	Caucasian
Cause of death	Anoxia	CVA 2 nd to ICH	CVA 2 nd to ICH	Head trauma	CVA 2 nd to ICH
BMI	48.8	23.5	25.2	26.9	24.5
Smoking	Yes	Yes	No	Yes	Yes
Alcohol	Yes	Yes	No	Yes	Yes
Substance abuse	Yes	No	No	Yes	Yes
Medical history	HTN, CHF	NA	Thyroid disorder	NA	Asthma, seizures, GERD
Infectious diseases	HBV-, HCV-, CMV+, HIV-, EBV (IgG)+	HBV-, HCV-, HIV-, CMV+, EBV (IgG)+	HBV-, HCV-, HIV-, CMV+, EBV IgG+	HBV-, HCV-, HIV-, CMV-, EBV (IgG)+	HBV-, HCV-, HIV-, CMV-, EBV (IgG)+

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

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