

Product Characterization Sheet

PHHX8011

MetMax™ Pooled Human Hepatocytes,
Catalog Number 82215-82221 (see list)



Specification

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

Drug Metabolism Activity

Drug Metabolizing Enzyme	Substrate (μM)	Metabolite Quantified	Average Activity (pmol/minute/million cells)	Standard Deviation
CYP1A2	Phenacetin (100)	Acetaminophen	105.518	15.724
CYP2A6	Coumarin (50)	7-Hydroxycoumarin	180.694	6.248
CYP2B6	Bupropion (500)	Hydroxybupropion	42.878	1.000
CYP2C8	Paclitaxel (20)	6α-Hydroxypaclitaxel	184.577	2.835
CYP2C9	Diclofenac (25)	4-Hydroxydiclofenac	182.407	18.583
CYP2C19	S-Mephenytoin (250)	4-Hydroxymephenytoin	11.246	1.650
CYP2D6	Dextromethorphan (15)	Dextrorphan	14.763	0.926
CYP2E1	Chlorzoxazone (250)	6-Hydroxychlorzoxazone	62.444	8.953
CYP3A4	Midazolam (20)	1-Hydroxymidazolam	23.647	0.636
	Testosterone (200)	6β-Hydroxytestosterone	323.817	75.669
ECOD	7-Ethoxycoumarin (100)	7-Hydroxycoumarin	129.980	22.962
UGT	7-Hydroxycoumarin (100)	7-Hydroxycoumarin glucuronide	1459.218	135.442
Sulfotransferase	7-Hydroxycoumarin (100)	7-Hydroxycoumarin sulfate	40.734	2.694
FMO	Benzydamine HCl (250)	Benzydamine-N-Oxide	1285.778	34.048
MAO	Kynuramine HBr (160)	4-Hydroxyquinoline	1690.444	107.772
AO	Carbazeran (10)	4-Hydroxycarbazeran	34.683	3.473
NAT1	4-Aminobenzoic Acid (200)	N-Acetyl-p-aminobenzoic acid	0.714	0.371
NAT2	Sulfamethazine (100)	N-Acetyl-sulfamethazine	0.341	0.232

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 30 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.

Donor Demographics

	Donor 1	Donor 2	Donor 3	Donor 4	Donor 5
Gender	Male	Female	Male	Male	Female
Age	65 years	47 years	22 years	15 years	64 years
Race	Hispanic	Caucasian	Caucasian	Caucasian	Hispanic
Cause of death	Anoxia 2 nd to CVA	CVA	Head trauma	Anoxia 2 nd to asphyxiation	CVA 2 nd to ICH
BMI	37.0	27.3	25.2	20.0	24.7
Smoking	No	No	Yes	Yes	No
Alcohol	No	No	Yes	Yes	No
Substance abuse	No	No	Yes	Yes	No
Medical history	Cardiac disease, renal disease, DM	HTN	Asthma	NA	MI, HTN, DM, GERD, ESRD, MS

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Infectious diseases	HBV-, HCV-, HIV-, CMV+, EBV (IgG)+	HBV-, HCV-, HIV-, CMV-, EBV (IgG)+	HBV-, HCV-, HIV-, CMV-, EBV (IgG)+	HBV-, HCV-, HIV-, CMV+	HBV-, HCV-, HIV-, CMV-, EBV (IgG)+
	Donor 6	Donor 7	Donor 8	Donor 9	Donor 10
Gender	Male	Male	Male	Female	Male
Age	30 years	17 years	49 years	46 years	67 years
Race	Caucasian	Caucasian	Caucasian	Caucasian	Caucasian
Cause of death	Head trauma	Head trauma	CVA 2 nd to ICH	Anoxia 2 nd to drug overdose	Head trauma 2 nd to ICH
BMI	26.9	23.0	29.9	22.0	21.7
Smoking	Yes	No	No	Yes	Yes
Alcohol	Yes	No	Yes	No	Yes
Substance abuse	Yes	Yes	No	Yes	Yes
Medical history	NA	NA	HTN	HTN, COPD, CHF, DM	NA
Infectious diseases	HBV-, HCV-, HIV-, CMV-, EBV (IgG)+	HBV-, HCV-, HIV-, CMV+	HBV-, HCV-, HIV-, CMV+, EBV (IgG)+	HBV-, HCV-, HIV-, CMV-, EBV (IgG)+	HBV-, HCV-, HIV-, CMV+

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
- Available MetMax™ Human Hepatocyte Products:

82215: PHHX MetMax®-C, Complete; High Performance Pooled Human Hepatocytes, 2.5mL, 5x10⁶ cells, Mixed Gender

82216: PHHX-OX; Pathway Specific MetMax™ Pooled Human Hepatocyte; 2.5 mL; 5 x 10⁶ cells; Mixed Gender

82217: PHHX-UGT; Pathway Specific MetMax™ Pooled Human Hepatocyte; 2.5 mL; 5 x 10⁶ cells; Mixed Gender

82218: PHHX-SULT; Pathway Specific MetMax™ Pooled Human Hepatocyte; 2.5 mL; 5 x 10⁶ cells; Mixed Gender

82219: PHHX-NAT; Pathway Specific MetMax™ Pooled Human Hepatocyte; 2.5 mL; 5 x 10⁶ cells; Mixed Gender

82220: PHHX-GST; Pathway Specific MetMax™ Pooled Human Hepatocyte; 2.5 mL; 5 x 10⁶ cells; Mixed Gender

82221: PHHX-MT; Pathway Specific MetMax™ Pooled Human Hepatocyte; 2.5 mL; 5 x 10⁶ cells; Mixed Gender

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