

Product Characterization Sheet

PHHX8012

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)
CYP1A1	7-EROD (20)	Resozufin	2.81 ± 0.23
CYP1A2	Phenacetin (100)	Acetaminophen	109 ± 10.8
CYP2A6	Coumarin (50)	7-Hydroxycoumarin	57 ± 2.88
CYP2B6	Bupropion (500)	Hydroxybupropion	64.8 ± 3.34
CYP2C8	Paclitaxel (20)	6α-Hydroxypaclitaxel	5.77 ± 0.66
CYP2C9	Diclofenac (25)	4-Hydroxydiclofenac	134 ± 3.2
CYP2C19	S-Mephenytoin (250)	4-Hydroxymephenytoin	89 ± 7.1
CYP2D6	Dextromethorphan (15)	Dextrorphan	5.73 ± 0.57
CYP2E1	Chlorzoxazone (250)	6-Hydroxychlorzoxazone	0.02 ± 0.002
CYP3A4	Midazolam (20)	1-Hydroxymidazolam	57.1 ± 5.05
	Testosterone (200)	6β-Hydroxytestosterone	633 ± 264
ECOD	7-Ethoxycoumarin (100)	7-Hydroxycoumarin	32.2 ± 0.77
UGT	7-Hydroxycoumarin (100)	7-Hydroxycoumarin glucuronide	196 ± 7.34
Sulfotransferase	7-Hydroxycoumarin (100)	7-Hydroxycoumarin sulfate	11.26 ± 0.37
FMO	Benzydamine HCl (250)	Benzydamine-N-Oxide	166 ± 3.8
MAO	Kynuramine HBr (160)	4-Hydroxyquinoline	56.3 ± 1.68
AO	Carbazeran (10)	4-Hydroxycarbazeran	35.3 ± 4
NAT1	4-Aminobenzoic Acid (200)	N-Acetyl-p-aminobenzoic acid	189 ± 23.9
NAT2	Sulfamethazine (100)	N-Acetyl-sulfamethazine	2281 ± 157
2J2	Astemizole (50)	O-Demethyl Astemizole	12.07 ± 2.77
CES2	Irinotecan (50)	SN38	0.56 ± 0.15

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.

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Donor Demographics

	HH1004	HH1006	HH1034/HH1038	HH1095	HH1108
Gender	Male	Male	Male	Male	Male
Age	30 years	65 years	49 years	41 years	27 years
Race	Caucasian	Hispanic	Caucasian	African American	Caucasian
Cause of death	Head trauma	Anoxia 2 nd to CVA	CVA 2 nd to ICH	Anoxia	Seizure
BMI	26.9	37.0	29.9	48.8	19.3
Smoking	Yes	No	No	Yes	No
Alcohol	Yes	No	Yes	Yes	No
Substance abuse	Yes	No	No	Yes	No
Medical history	NA	Cardiac disease, renal disease, DM	HTN	HTN, CHF	Cerebral palsy, epilepsy
Infectious diseases	HBV-, HCV-, HIV-, CMV-	HBV-, HCV-, HIV-, CMV+	HBV-, HCV-, HIV-, CMV+	HBV-, HCV-, CMV+, HIV-	HBV-, HCV-, HIV-, CMV-

	HH1016/HH1017	HH1040	HH1070/HH1077	HH1065/HH1079/HH1080	HH1093/HH1094
Gender	Female	Female	Female	Female	Female
Age	64 years	69 years	41 years	66 years	62 years
Race	Hispanic	Caucasian	Caucasian	Caucasian	Caucasian
Cause of death	CVA 2 nd to ICH	CVA 2 nd to ICH	CVA 2 nd to ICH	CVA 2 nd to blunt injury	Anoxia
BMI	24.7	28.9	24.5	15.7	22.7
Smoking	No	Yes	Yes	No	No
Alcohol	No	Yes	Yes	Yes	No
Substance abuse	No	No	Yes	No	No
Medical history	MI, HTN, DM, GERD, ESRD, MS	Asthma, cardiac disease, HTN, nephrolithiasis	Asthma, seizures, GERD	Anorexia	NA
Infectious diseases	HBV-, HCV-, HIV-, CMV-	HBV-, HCV-, HIV-, CMV+	HBV-, HCV-, HIV-, CMV-	HBV-, HCV-, HIV-, CMV+	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:

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