XENOTECH
A BioIVT Company

Data Sheet

H0604 Lot No. 1010191

Human Liver Microsomes
Mixed Gender, CMV-, Pool of 15
0.5 mL at 20 mg protein / mL
Suspension medium: 250 mM sucrose

Specific Content and Enzyme Activities		***Content / Rate***
Cytochrome P450 content	(nmol/mg protein)	0.495
Cytochrome b_5 content	(nmol/mg protein)	0.419
NADPH-cytochrome c reductase	(nmol/mg protein/min)	170 ± 26

Enzyme	**Marker Substrate Reaction**	**[S] (µM)**	**Rate (pmol/mg protein/min)**
CYP1A2	Phenacetin *O*-dealkylation	80	426 ± 83
CYP2A6	Coumarin 7-hydroxylation	50	1140 ± 40
CYP2B6	Bupropion hydroxylation	500	911 ± 52
CYP2C8	Amodiaquine *N*-dealkylation	20	3110 ± 140
CYP2C9	Diclofenac 4'-hydroxylation	100	3180 ± 60
CYP2C19	*S*-Mephenytoin 4'-hydroxylation	400	75.4 ± 4.5
CYP2D6	Dextromethorphan *O*-demethylation	80	320 ± 7
CYP2E1	Chlorzoxazone 6-hydroxylation	500	1260 ± 50
CYP3A4/5	Testosterone 6β-hydroxylation	250	3820 ± 460
CYP3A4/5	Midazolam 1'-hydroxylation	30	860 ± 17
CYP4A11	Lauric acid 12-hydroxylation	100	1260
FMO	Benzydamine *N*-oxygenation	500	1090 ± 10
UGT1A1	17β-Estradiol 3-glucuronidation	100	5950 ± 270
UGT1A4	Trifluoperazine glucuronidation	25	790 ± 67
UGT1A6	1-Naphthol glucuronidation	500	19200 ± 300
UGT1A9	Propofol glucuronidation	50	6780 ± 440
UGT2B7	Morphine 3-glucuronidation	1000	3210 ± 230

Characterization is performed when the first lot of a product from a given subcellular fraction (*e.g., S9*) is prepared. Subsequent lots are subject to a verification test only. Values for enzyme activities were determined at a single substrate concentration and are mean ± standard deviation of three or more determinations.

To measure cytochrome P450 (CYP) activity, liver microsomes (50 µg/mL) were incubated in triplicate at 37 ± 1°C for 10 minutes in potassium phosphate buffer (50 mM, pH 7.4), containing $MgCl_2$ (3.0 mM), EDTA (1.0 mM), NADP (1.0 mM), glucose-6-phosphate (5.0 mM), glucose-6-phosphate dehydrogenase (1 Unit/mL) and marker substrate, at the final concentrations indicated. Metabolite formation was determined by validated LC-MS/MS methods with deuterated metabolites as internal standards. FMO activity was measured under similar conditions except the protein concentration was 1 mg/mL and the buffer was 49 mM Tricine (pH 8.5)

To measure UDP-glucuronosyltransferase (UGT) activity, liver microsomes (10 - 250 µg/mL) were incubated in triplicate at 37 ± 1°C for 5 or 10 minutes in Tris-HCl (100 mM, pH 7.7 at 37°C), CHAPS (0.5 mM), EDTA (1.0 mM), $MgCl_2$ (10 mM), D-saccharic acid 1,4-lactone (100 µM), uridine diphosphate-glucuronic acid (8.0 mM) and marker substrate at the final concentrations indicated.

Store at -80°C

CAUTION: This sample should be considered as a potential biohazard and universal precautions should be followed. Intended for *in vitro* use only.

Datasheet prepared 06 November 2012

Donor Information

Sample	Gender	Age (Yrs)	Race	Cause of Death
229	M	62	Caucasian	Cerebrovascular accident
231	F	61	Caucasian	Cerebrovascular accident
259	M	57	Caucasian	Anoxia
321	M	58	Caucasian	Cerebrovascular accident
348	F	59	Caucasian	Anoxia
370	M	45	Caucasian	Anoxia
382	F	19	Caucasian	Head trauma
383	F	52	Caucasian	Cerebrovascular accident
426	F	51	Caucasian	Cerebrovascular accident
442	M	49	Caucasian	Head trauma
447	F	54	Caucasian	Anoxia
452	M	29	Caucasian	Head trauma
457	M	43	African American	Anoxia
489	M	46	Caucasian	Cerebrovascular accident
509	M	32	Caucasian	Head trauma

Serology information

- All donors tested negative for cytomegalovirus
- RPR*: 14 donors tested negative and 1 donor was not determined
- HIV, HTLV, HbsAg, and HCV**: All donors tested negative.

* Rapid Plasma Reagin

** Antibody to Human Immunodeficiency Virus, Antibody to Human T Cell Lymphotropic Virus, Hepatitis B Surface Antigen, Antibody to Hepatitis C Virus, respectively.