SEKISUI XENOTECH

Data Sheet

Human Liver Microsomes – Pool of 50

Lot No. 2010065

Human Liver Microsomes
Mixed Gender, Pool of 50
Suspension medium: 250 mM sucrose

H0610 0.5 mL at 20 mg/mL
H0620 1.0 mL at 20 mg/mL
H0630 5.0 mL at 20 mg/mL
H0640 50.0 mL at 20 mg/mL

Specific Content and Enzyme Activities		***Content / Rate***
Cytochrome P450 content	(nmol/mg protein)	0.453
Cytochrome b_5 content	(nmol/mg protein)	0.369
NADPH-cytochrome c reductase	(nmol/mg protein/min)	172 ± 3

Enzyme	**Marker Substrate Reaction**	**[S] (µM)**	**Rate (pmol/mg protein/min)**
CYP1A2	Phenacetin *O*-dealkylation	80	499 ± 33
CYP2A6	Coumarin 7-hydroxylation	50	1300 ± 20
CYP2B6	Bupropion hydroxylation	500	701 ± 88
CYP2C8	Amodiaquine *N*-dealkylation	20	2600 ± 580
CYP2C9	Diclofenac 4'-hydroxylation	100	3010 ± 480
CYP2C19	*S*-Mephenytoin 4'-hydroxylation	400	113 ± 2
CYP2D6	Dextromethorphan *O*-demethylation	80	273 ± 20
CYP2E1	Chlorzoxazone 6-hydroxylation	500	2490 ± 90
CYP2J2	Ebastine hydroxylation	30	365 ± 15
CYP3A4/5	Testosterone 6β-hydroxylation	250	3040 ± 80
CYP3A4/5	Midazolam 1'-hydroxylation	30	948 ± 104
CYP4A11	Lauric acid 12-hydroxylation	100	2040 ± 50
FMO	Benzydamine *N*-oxygenation	500	962 ± 22
UGT1A1	17β-Estradiol 3-glucuronidation	100	1250 ± 70
UGT1A3	Chenodeoxycholic acid 24-glucuronidation	300	83.1 ± 3.6
UGT1A4	Trifluoperazine glucuronidation	25	735 ± 23
UGT1A6	1-Naphthol glucuronidation	500	14400 ± 1130
UGT1A9	Propofol glucuronidation	50	4200 ± 90
UGT2B7	Morphine 3-glucuronidation	1000	3690 ± 200
UGT2B17	Testosterone 17-glucuronidation	50	482 ± 17

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 ± 2°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 ± 2°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 (10.0 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 17 June 2020

Donor Information

Sample	Gender	Age (Yrs)	Race	Cause of Death
342	F	31	Caucasian	Anoxia
397	M	60	Caucasian	Anoxia
409	F	63	Hispanic	Cerebrovascular Accident
415	M	56	Caucasian	Anoxia
422	M	69	Caucasian	Cerebrovascular Accident
424	F	39	Caucasian	Cerebrovascular Accident
445	F	44	Asian	Cerebrovascular Accident
455	F	37	Caucasian	Cerebrovascular Accident
458	M	48	Caucasian	Head Trauma
467	M	33	Caucasian	Anoxia
471	M	49	Caucasian	Anoxia
485	M	10	Caucasian	Anoxia
486	F	49	Caucasian	Anoxia
487	M	48	Caucasian	Head Trauma
490	F	60	Caucasian	Cerebrovascular Accident
500	F	51	Caucasian	Head Trauma
501	F	58	Caucasian	Anoxia
521	M	56	Caucasian	Anoxia
526	M	34	Caucasian	Head Trauma
528	M	60	Caucasian	Head Trauma
529	M	26	Caucasian	Head Trauma
536	F	34	Caucasian	Anoxia
553	M	74	African American	Cerebrovascular Accident
562	M	65	Caucasian	Cerebrovascular Accident
569	M	60	Caucasian	Anoxia
570	M	49	Caucasian	Cerebrovascular Accident
578	F	56	Hispanic	Cerebrovascular Accident
580	M	77	Caucasian	Cerebrovascular Accident
591	F	11	Caucasian	Head Trauma
592	F	83	Caucasian	Head Trauma
593	M	59	Caucasian	Head Trauma
595	M	37	Caucasian	Head Trauma
675	M	5	Caucasian	Anoxia
689	F	5	Caucasian	Head Trauma
723	F	57	Caucasian	Cerebrovascular Accident
725	F	54	Caucasian	Cerebrovascular Accident
751	M	29	Caucasian	Anoxia
779	F	20	Caucasian	Head Trauma
786	F	27	Caucasian	Head Trauma
802	M	33	Caucasian	Cerebrovascular Accident
811	M	16	Caucasian	Head Trauma
816	M	55	Hispanic	Head Trauma
830	M	65	Caucasian	Cerebrovascular Accident
833	M	48	Hispanic	Anoxia
836	M	39	Caucasian	Head Trauma
962	M	47	Caucasian	Anoxia

Donor Information

Sample	Gender	Age (Yrs)	Race	Cause of Death
973	F	63	Caucasian	Cerebrovascular Accident
976	F	61	Caucasian	Head Trauma
997	M	63	Caucasian	Anoxia
998	F	63	Caucasian	Cerebrovascular Accident

Serology information

- Antibody to Cytomegalovirus: 29 of 50 donors tested positive.
- RPR*: 50 donors tested negative.
- HIV, HbsAg, and HCV**: All donors tested negative.

* Rapid Plasma Reagin

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