

Human Liver Microsomes

Male, Individual No. 1036

0.5 mL at 20 mg protein / mL

Suspension medium: 250 mM sucrose

Genotype, Specific Content and Activities ^a
Content / Rate

CYP2D6 Allelic variant		CYP2D6*1x3/*41
Cytochrome P450	(nmol/mg protein)	0.252
Cytochrome b ₅	(nmol/mg protein)	0.384
NADPH-cytochrome c reductase	(nmol/mg protein/min)	158 ± 3

Enzyme	Marker Substrate Reaction	[S] (µM)	Rate (pmol/mg protein/min)
CYP1A2	Phenacetin O-dealkylation	80	393 ± 10
CYP2A6	Coumarin 7-hydroxylation	50	236 ± 33
CYP2B6	Bupropion hydroxylation	500	598 ± 37
CYP2C8	Amodiaquine N-dealkylation	20	1950 ± 100
CYP2C9	Diclofenac 4'-hydroxylation	100	774 ± 77
CYP2C19	S-Mephenytoin 4'-hydroxylation	400	11.4 ± 0.3
CYP2D6	Dextromethorphan O-demethylation	80	257 ± 21
CYP2E1	Chlorzoxazone 6-hydroxylation	500	890 ± 73
CYP3A4/5	Testosterone 6β-hydroxylation	30	1380 ± 70
CYP3A4	Midazolam 1'-hydroxylation	250	201 ± 13
CYP4A11	Lauric acid 12-hydroxylation	30	1690 ± 120

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 MgCl₂ (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)

Sample	Gender	Age (yrs)	Race	Cause of Death
H1036	Male	55	Caucasian	Cerebrovascular accident

Serology information

- This donor tested positive for cytomegalovirus
- This donor tested negative for HIV, HbsAg, and HCV*
- This donor tested negative for RPR**

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

** Rapid Plasma Reagin.


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.

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