

Human Liver Microsomes

Female, Individual No. 737

0.5 mL at 20 mg protein / mL

Suspension medium: 250 mM sucrose

Genotype, Specific Content and Activities ^a
Content / Rate

CYP3A5 Allelic variant

CYP3A5*1/*3

Cytochrome P450

(nmol/mg protein)

0.378

Cytochrome b₅

(nmol/mg protein)

0.494

NADPH-cytochrome c reductase

(nmol/mg protein/min)

164 ± 5

Enzyme	Marker Substrate Reaction	[S] (μM)	Rate (pmol/mg protein/min)
CYP1A2	Phenacetin O-dealkylation	80	675 ± 20
CYP2A6	Coumarin 7-hydroxylation	50	549 ± 14
CYP2B6	Bupropion hydroxylation	500	137 ± 1
CYP2C8	Amodiaquine N-dealkylation	20	3860 ± 70
CYP2C9	Diclofenac 4'-hydroxylation	100	2370 ± 130
CYP2C19	S-Mephenytoin 4'-hydroxylation	400	155 ± 5
CYP2D6	Dextromethorphan O-demethylation	80	288 ± 6
CYP2E1	Chlorzoxazone 6-hydroxylation	500	1870 ± 50
CYP3A4/5	Testosterone 6β-hydroxylation	30	4360 ± 370
CYP3A4	Midazolam 1'-hydroxylation	250	635 ± 23
CYP4A11	Lauric acid 12-hydroxylation	30	2950 ± 70

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
H0737	Female	49	African American	Anoxia

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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