

Human Liver Microsomes

Male, Individual No. 419

0.5 mL at 20 mg protein / mL

Suspension medium: 250 mM sucrose

**Genotype, Specific Content and Activities <sup>a</sup>**
**Content / Rate**

CYP3A5 Allelic variant		CYP3A5*1/*3
Cytochrome P450	(nmol/mg protein)	0.218
Cytochrome b <sub>5</sub>	(nmol/mg protein)	0.329
NADPH-cytochrome c reductase	(nmol/mg protein/min)	177 ± 4

Enzyme	Marker Substrate Reaction	[S] (µM)	Rate (pmol/mg protein/min)
CYP1A2	Phenacetin O-dealkylation	80	151 ± 2
CYP2A6	Coumarin 7-hydroxylation	50	212 ± 3
CYP2B6	Bupropion hydroxylation	500	139 ± 4
CYP2C8	Amodiaquine N-dealkylation	20	1120 ± 30
CYP2C9	Diclofenac 4'-hydroxylation	100	726 ± 34
CYP2C19	S-Mephenytoin 4'-hydroxylation	400	3.42 ± 0.1
CYP2D6	Dextromethorphan O-demethylation	80	172 ± 3
CYP2E1	Chlorzoxazone 6-hydroxylation	500	1950 ± 90
CYP3A4/5	Testosterone 6β-hydroxylation	30	482 ± 8
CYP3A4	Midazolam 1'-hydroxylation	250	140 ± 5
CYP4A11	Lauric acid 12-hydroxylation	30	1260 ± 60

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<sub>2</sub> (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
H0419	Male	56	Hispanic	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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