

INVITROCYP™ Mixed Gender Human Microsomes — Liver, H-Class, 10-Donor Pool,
Frozen, 10 mg @ 20 mg/mL

Product: X008061 | Lot: ZMY

Storage: ≤ -70 °C

Protein & p450 Concentration

Protein	20—26 mg/mL	24.7	mg/mL
Total P450	≥ 0.300 nmol/mg	0.496	nmol/mg
Volume	≥ 0.5 mL	0.59	mL

Protein and p450 values are average concentrations of samples from the beginning, middle, and end of the production run.

Metabolic Activity

Enzyme	Substrate	Conc. [μM]*		Metabolite	Result**		
		K _m *	V _{max} *		K _m *	V _{max} *	
ECOD	7-Ethoxycoumarin O-Deethylation	7-Ethoxycoumarin	75	NA	7-HC, 7-HCG, and 7-HCS***	352	NA
UGT	7-Hydroxycoumarin Glucuronidation	7-Hydroxycoumarin	30	NA	7-HCG	1989	NA
CYP1A2	Phenacetin O-Deethylation	Phenacetin	50	500	Acetaminophen	459	951
CYP2A6	Coumarin 7-Hydroxylation	Coumarin	3	40	7-HC, 7-HCG, and 7-HCS	319	645
CYP2B6	Bupropion Hydroxylation	Bupropion	50	400	Hydroxybupropion	322	797
CYP2C8	Amodiaquine N-Desethylation	Amodiaquine	2	NA	Desethylamodiaquine	1239	NA
CYP2C9	Tolbutamide Methyl-hydroxylation	Tolbutamide	125	1000	4'-Methylhydroxytolbutamide	209	469
CYP2C19	S-Mephenytoin 4'-Hydroxylation	S-Mephenytoin	50	500	4'-Hydroxymephenytoin	102	174
CYP2D6	Dextromethorphan O-Demethylation	Dextromethorphan	8	50	Dextrorphan	39.2	149
CYP2E1	Chlorzoxazone 6-Hydroxylation	Chlorzoxazone	50	500	6-Hydroxychlorzoxazone	497	1229
CYP3A4	Testosterone 6β-Hydroxylation	Testosterone	40	600	6β-Hydroxytestosterone	2016	4170
CYP3A4	Midazolam 1-Hydroxylation	Midazolam	4	24	1-Hydroxymidazolam	436	1534

*Measured at apparent K_m and V_{max} concentration where appropriate **Metabolite rate of formation is measured in pmol/min/mg

***7-hydroxycoumarin (7-HC), 7-hydroxycoumarin glucuronide (7-HCG), 7-hydroxycoumarin sulfate (7-HCS)

Metabolic assays are run in triplicate. Activity results analyzed by HPLC-UV or LC/MS/MS validated procedures. Metabolite formation for all enzymes is measured after incubation at 37°C, 5% CO₂. Final protein concentrations and incubation times are as follows: ECOD, UGT, CYP1A2, CYP2B6 and CYP2C19 – 30 min/0.50 mg/mL; CYP2C9, CYP2D6 and CYP2E1 – 30 min/0.25 mg/mL; CYP2A6 – 10 min/0.50 mg/mL; CYP3A4 – 10 min/0.25 mg/mL and CYP2C8 – 10 min/0.025 mg/mL

Results for this lot have been derived through validated testing methods and confirmed by Quality Assurance.

Caution: This product was prepared from human tissue. Treat all products containing human-derived materials as potentially infectious, as no known test methods can offer assurance that products derived from human tissues will not transmit infectious agents.

This product is being sold for research and/or manufacturing purposes only. The biological samples supplied by BioIVT, or any material isolated from the samples, are for in-vitro research use only and are not to be used as a source of material for clinical therapies. Human material may be used in vivo in animals. The user assumes all responsibility for its usage and disposal, in accordance with all regulations.

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Donor Demographics, as reported to BioIVT

Age/ Gender	Race	Cause of Death	BMI	Social History	Medical History	Serology****		
						EBV	RPR	CMV
37/Male	Caucasian	Anoxia	32.3	ETOH: More than 2 (wine or vodka)/ day x 10 yrs. No Tobacco or Drug use reported.	Asthma since age 4	Negative	Negative	Positive
49/Male	Caucasian	Cardiac Arrest	28.5	ETOH: 4 beers 4-5 days per week for 25 years; Tobacco: 2ppd, no drug use	No medical history reported	Not Reported	Negative	Positive
53/Male	Caucasian	Anoxia, Cardio-vascular	21.5	ETOH: several beers/day since age 16, hard liquor for past 2 years; Tobacco: 1/2 ppd x 12 yrs, 1-2 cigs/day past 8 yrs; Drugs: nonprescribed pain medication, cocaine and marijuana many years ago.	No medical history reported	Negative	Negative	Positive
53/Male	Caucasian	Anoxia	27.1	ETOH: a couple of drinks 2-3 nights a week; Tobacco: quit 10 yrs ago; Drugs: marijuana and cocaine past 3 yrs	Asthma	IgG+	Negative	Positive
71/Male	Caucasian	Stroke	27.3	No ETOH, Tobacco or Drug use	Cardiac Disease, Hypertension, Diabetes	IgG+	Negative	Positive
71/Female	Caucasian	Anoxia/ Cardio-vascular	28.7	Tobacco: amt/type not reported; no ETOH and drug use.	Asthma/Bronchitis, HTN x 20 yrs, Basal cell Squamous	IgG+	Negative	Positive
51/Female	Caucasian	Anoxia/CP A/Natural	15.3	ETOH: Wine, socially; no tobacco or drug use	No medical history reported	IgG+	Negative	Positive
55/Female	Caucasian	Anoxia/Natural Causes/Accident non MVA	40.7	ETOH: 1-2 drinks/week x 30+ yrs; Tobacco: <1ppd x 10yrs; no drug use	HTN x 20yrs	IgG+	Not reported	Positive

****BioIVT does not routinely accept HEP C, HEP B, or HIV positive tissue. Serology results for these viruses are negative unless otherwise specified.

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						EBV	RPR	CMV
21/Female	Hispanic	Anoxia/ 2nd to CVA/ death from natural causes	27.0	ETOH: 1 beer or 2 vodka drinks once every 2 months x 1 year; Tobacco: 1.5 ppd x 2 yrs; Drugs: Polysubstance abuse, no IVDA, smoked amphetamine, marijuana, snorted cocaine.	Asthma	IgG+	Negative	Negative
58/Female	Caucasian	Anoxia	25.0	ETOH: 1 beer 3x/week x 37 yrs, quit 1 year ago; Tobacco: No use reported; Drugs: Marijuana 4x daily x 4 yrs.	HTN x 3 yrs, treated with meds, unknown compliance	IgG+	Negative	Negative

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