

INVITROCYPTM Mixed Gender Human Microsomes — Liver, H-Class, 25-Donor Pool,
Frozen, 10 mg @ 20 mg/mL

Product: X008064 | Lot: SEU

Storage: ≤ -70 °C

Protein & p450 Concentration

Protein	20—26 mg/mL	24.8	mg/mL
Total P450	≥ 0.300 nmol/mg	0.372	nmol/mg
Volume	≥ 0.5 mL	0.58	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***	311	NA
UGT	7-Hydroxycoumarin Glucuronidation	7-Hydroxycoumarin	30	NA	7-HCG	2577	NA
CYP1A2	Phenacetin O-Deethylation	Phenacetin	50	500	Acetaminophen	373	690
CYP2A6	Coumarin 7-Hydroxylation	Coumarin	3	40	7-HC, 7-HCG, and 7-HCS	529	912
CYP2B6	Bupropion Hydroxylation	Bupropion	50	400	Hydroxybupropion	179	819
CYP2C8	Amodiaquine N-Desethylation	Amodiaquine	2	NA	Desethylamodiaquine	1496	NA
CYP2C9	Tolbutamide Methyl-hydroxylation	Tolbutamide	125	1000	4'-Methylhydroxytolbutamide	151	293
CYP2C19	S-Mephenytoin 4'-Hydroxylation	S-Mephenytoin	50	500	4'-Hydroxymephenytoin	54.1	82.8
CYP2D6	Dextromethorphan O-Demethylation	Dextromethorphan	8	50	Dextrorphan	46.0	107
CYP2E1	Chlorzoxazone 6-Hydroxylation	Chlorzoxazone	50	500	6-Hydroxychlorzoxazone	374	1068
CYP3A4	Testosterone 6β-Hydroxylation	Testosterone	40	600	6β-Hydroxytestosterone	1464	2663
CYP3A4	Midazolam 1-Hydroxylation	Midazolam	4	24	1-Hydroxymidazolam	462	1148

*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	EBV	Serology**** RPR	CMV
29 Male	Caucasian	GSW	30.6	ETOH: Alcoholic; Tobacco: 1ppd x 8yrs; No Drug use	No Medical History Reported	Not Reported	Negative	Negative
53 Male	Caucasian	CVA	37.2	ETOH: Rarely; Tobacco: 1/2ppd x 12yrs - quit 25yrs; Drug use reported but unknown type/duration	CABG, saph vein graft, Hypertension x 8yrs (compliant w/meds), IDDM x 2wks, NIDDM x 5yrs; Meds: Coumadin, hypertension meds, insulin, ameradane, Vicodin	Not Reported	Negative	Positive
53 Male	Caucasian	Anoxia; 2nd to MVA	44.2	Tobacco: 0.5 ppd x 3yrs, quit ≥ 30yrs ago; No ETOH or Drug use	Cardiac arrest, Gall bladder removed >10yrs ago, Hypertension x 3yrs - compliant with meds; Meds: Hypertension meds, MgSulfate	Positive	Negative	Positive
28 Male	Caucasian	Head Trauma; 2nd to GSW	38.6	Drugs: smoked marijuana; No ETOH or Tobacco use	No Medical History Reported	IgG+	Negative	Positive
37 Male	Caucasian	Anoxia	32.3	ETOH: More than 2 drinks (wine or vodka)/day x 10yrs; No Tobacco or Drug use	Asthma since age 4	Negative	Negative	Positive
44 Male	Hispanic	CNS tumor	36.8	No ETOH, Tobacco, or Drug use	No Medical History Reported	Not Reported	Negative	Positive
37 Male	Caucasian	Anoxia; 2nd to Cardio- vascular	41.9	ETOH: socially on weekends - quit 1.5yrs ago; Tobacco: smoked socially for unknown duration - quit 7- 9yrs ago; Drugs: smoked marijuana since college - last use 1 week ago	Jaundice at birth - resolved shortly after, vasectomy, flu vaccine last year; Meds: melatonin, Advil PM	IgG+	Negative	Negative
49 Male	Caucasian	Cardiac Arrest	28.5	ETOH: 4 beers 4-5 days/week x 25yrs; Tobacco: 2ppd - duration unknown; No Drug use	No Medical History Reported	Not Reported	Negative	Positive
21 Male	Caucasian	Gunshot Wound	21.8	ETOH: occasional; Tobacco: 1ppw x 4yrs; No Drug use	No Medical History Reported	Not Reported	Negative	Positive

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

Donor Demographics, as reported to BioIVT

Age/ Gender	Race	Cause of Death	BMI	Social History	Medical History	Serology****		
						EBV	RPR	CMV
49 Male	Hispanic	ICH	39.6	No ETOH, Tobacco, or Drug use	Hypertension	IgG+	Negative	Positive
53 Male	Caucasian	ICH	28.5	ETOH: 2-3 beers/week; Tobacco: previous tobacco chewer; No Drug use	Hypertension - unknown duration	IgG+	Negative	Positive
53 Male	Caucasian	Anoxia, Cardio- vascular	21.5	ETOH: several beers/day x 37yrs, hard liquor for past 2yrs; Tobacco: 0.5 ppd x 12yrs, 1-2 cigs/day past 8yrs; Drugs: nonprescribed pain medication, cocaine many years ago, occasional marijuana 34yrs ago	No Medical History Reported	IgG-	Negative	Positive
77 Female	Caucasian	ICH	28.0	ETOH: 2-3 drinks per month; tobacco: 1-1.5 ppd x 50+ yrs; No Drug Use	Diabetes (IDDM) x10yrs, CAD x 5yrs, CABG, orthopedic surgery - knee and back, cholecystectomy , polyps removed from bladder a year ago, low grade papillary urothelial cell carcinoma. Meds: BP meds, insulin, diabetic pills, Crestor, Zoloft, calcium, iron	Not Reported	Negative	Positive
77 Female	Caucasian	Stroke/ICH	30.2	ETOH: socially - 1 glass of wine/month; No Tobacco or Drug use	No Medical History Reported	Not Reported	Negative	Positive
71 Female	Caucasian	Anoxia/ Cardio- vascular	28.7	Tobacco: amount/type not reported; No ETOH or Drug use	Asthma/Bronchitis , hypertension x 20yrs, Cancer: Basal cell Squamous	IgG+	Negative	Positive
49 Female	Caucasian	ICH	23.0	ETOH: 1-3 drinks/day x 10yrs; Tobacco: 1ppd x 20yrs; Drugs: marijuana during teens	Hypertension x 6- 10yrs	Negative	Negative	Negative
57 Female	Hispanic	Head Trauma/MVA	31.8	ETOH: Occasional wine, 1-2 glasses; No Tobacco or Drug use	No Medical History Reported	IgG +	Negative	Negative
50 Female	Caucasian	Anoxia	36.0	ETOH: 1 pint/day x 5yrs; Drugs: snorted meth over 10yrs ago; No Tobacco use	Hypertension - duration unknown	IgG+	Negative	Negative
39 Female	African American	Head Trauma/MVA	17.7	ETOH: 1 can of beer daily x 15yrs; Drugs: positive for marijuana on admission; No Tobacco use	Asthma - unknown duration	IgG+	Negative	Positive

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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
51 Female	Caucasian	Anoxia/CPA/ Natural	15.3	ETOH: Wine, socially; No Tobacco or Drug use	No Medical History Reported	IgG+	Negative	Positive
57 Female	Caucasian	Natural Causes; 2nd to Respiratory Failure	30.4	ETOH: 1-2 drinks/yr x 15yrs; Tobacco: 1-5 cigarettes/day for about a year - quit 35yrs ago; No Drug use	ARDS, Hypertension x 10yrs	Not Reported	Negative	Negative
55 Female	Caucasian	Anoxia/Accident- non MVA/ Natural Causes	40.7	ETOH: 1-2 drinks/week x 30+ yrs; Tobacco: <1ppd x 10yrs; No Drug use	Hypertension x 20yrs	IgG +	Not Reported	Positive
21 Female	Hispanic	Anoxia; 2nd to CVA	27.0	ETOH: 1 beer or 2 vodka drinks once every 2mos x 1yr; Tobacco: 1.5 ppd x 2yrs (current); 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 37yrs - quit 7mos ago; Drugs: marijuana 4x daily x 4yrs; No Tobacco use	Hypertension x 3 yrs - treated with meds, unknown compliance	IgG+	Negative	Negative
49 Female	Asian	CVA/Stroke	23.0	No ETOH, Tobacco, or Drug use	Hypertension, Diabetes x 6-10yrs; Meds: possible anti- hypertension meds	Not Reported	Negative	Not Reported

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