

Mixed Gender Human S9 — Liver, Pooled, Frozen, 30 mg @ 20 mg/mL

Product: X008023 | Lot: XJW

Storage: ≤ -70 °C

Protein & p450 Concentration

Protein	20—26 mg/mL	20.6	mg/mL
Total P450	nmol/mg	0.043	nmol/mg
Volume	≥ 1.5 mL	1.60	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**
ECOD	7-Ethoxycoumarin O-deethylation	75	7-HC, 7-HCG, and 7-HCS*	111
UGT	7-Hydroxycoumarin glucuronidation	30	7-HCG	625
CYP1A2	Phenacetin O-deethylation	50	acetaminophen	49.7
CYP2A6	Coumarin 7-hydroxylation	3	7-HC, 7-HCG, and 7-HCS	109
CYP2B6	Bupropion Hydroxylation	50	Hydroxybupropion	27.0
CYP2C8	Amodiaquine N-desethylation	2	Desethylamodiaquine	227
CYP2C9	Tolbutamide Methyl-hydroxylation	125	4'-methylhydroxytolbutamide	54.2
CYP2C19	S-Mephenytoin 4'-hydroxylation	50	4'-hydroxymephenytoin	8.31
CYP2D6	Dextromethorphan O-demethylation	8	dextrorphan	15.2
CYP2E1	Chlorzoxazone 6-hydroxylation	50	6-hydroxychlorzoxazone	89.1
CYP3A4	Testosterone 6β-hydroxylation	40	6β-hydroxytestosterone	146
CYP3A4	Midazolam 1-hydroxylation	4	1-hydroxymidazolam	62.3

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

**Metabolite rate of formation is measured in pmol/min/mg

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.

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.

As of March 5th, 2018, "BioIVT" will replace the current brand of BioreclamationIVT and those of each of its affiliates and subsidiaries: IVT Holdings Inc., Asterand Bioscience, Inc., Asterand UK Acquisition limited, Asterand US Acquisition Corporation, Labquote.com LLC, ILSBio LLC, Seratrials LLC, Sera Laboratories International Ltd., Translational Cell Science LLC, Bioreclamation-IVT India Private Limited, In Vitro Inc., In Vitro GmbH, Qualyst Holdings LLC, Qualyst Transporter Solutions LLC.

Donor Demographics, as reported to BioIVT

Age/ Gender	Race	Cause of Death	BMI	Social History	Medical History	Serology***		
						EBV	RPR	CMV
48 Male	Hispanic	Head Trauma; 2nd to Homicide	26.0	ETOH: social - unknown quantity and duration; No Tobacco or Drug use	Heart problems	Not Reported	Negative	Positive
38 Male	Hispanic	CVA	29.3	ETOH: social, 1-2 beers weekends/special occasions; No Tobacco or Drug use	No Medical History Reported	Not Reported	Negative	Negative
62 Male	Caucasian	Subdural Hematoma	29.0	No ETOH, Tobacco, or Drug use	Prostate cancer 11yrs ago with prostatectomy (no chemo/rad), significant cardiac issues - received blood products, heart disease x 2yrs, ARCD Defibrillator placed 2yrs ago, CHF, CPA, reflux last couple of years, MRSA last year - negative currently.	Not Reported	Negative	Negative
66 Male	Caucasian	CVA	29.0	ETOH: 2 drinks/day; Tobacco: 1ppd x 50yrs; No Drug use	Lung mass found (adenocarcinoma), Hypertension < 5 years	Not Reported	Negative	Negative
34 Male	Other	Anoxia; 2nd to Suicide/ Hanging	30.8	ETOH: Heavy, 8-10 beers x 13yrs - frequency unknown; No Tobacco or Drug use	No Medical History Reported	Positive	Negative	Positive
59 Female	Caucasian	ICH; 2nd to Stroke	24.5	No ETOH, Tobacco, or Drug use	Double mastectomy - chemo for breast cancer 15yrs ago, migraines; Meds: keflin, levophed, calcium, Crestor	Positive	Negative	Positive

Donor Demographics, as reported to BioIVT

Age/ Gender	Race	Cause of Death	BMI	Social History	Medical History	EBV	Serology*** RPR	CMV
80 Female	Caucasian	CVA	25.4	No ETOH, Tobacco, or Drug use	Hysterectomy, prolapsed uterus past 5+ years with pelvic mesh, anxiety, arthritis, hypertension, depression, COPD, stroke; Toxoplasmosis IgG+; Meds: Natural supplements-cayenne pepper & chia seed, Vitamin B injection, anxiety medication, Lotrel, Atenolol, Lorazepam, Paxil	IgG +	Negative	Not Reported
40 Female	Caucasian	Anoxia	37.1	ETOH: 2-3 drinks/month; No Tobacco or Drug use	Asthma	Negative	Negative	Negative
51 Female	Asian	CVA	17.2	No ETOH, Tobacco, or Drug use	Cardiomyopathy	IgG+	Negative	Negative
45 Female	Caucasian	Overdose	31.9	ETOH: 1 pint of liquor every 4 months; Tobacco: 0.5ppd x 13yrs - quit 1yr ago; Drugs: IVDA 2yrs ago, cocaine and marijuana x 6 months	Hypertension x 5yrs, Diabetes x 10yrs	IgG+	Negative	Negative

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