

## LIVERPOOL® Mixed Gender Human Hepatocytes – 10-Donor Pool, Cryopreserved

**Product: X008001 | Lot: EQI\*\*\*\*\***

**Storage: ≤ -150 °C**

\*\*\*\*\*Preliminary COA –Metabolism results to be updated when available.

### Post-Thaw Viability and Yield

	Specification	Results
<b>Viability</b>	≥ 80% post-thaw viability by trypan blue exclusion	<b>88</b> %
<b>Yield</b>	≥ 5 million viable cells	<b>7.40</b> million viable cells

*Post-thaw viability and yield are an average of samples from the beginning, middle, and end of the production run. All data generated without the use of Percoll.*

\*The process for producing the LIVERPOOL® pooled human hepatocyte products is covered by one or more U.S. or foreign patents and patent applications, including U.S. Patent No. 7,604,929.

### Metabolic Activity

Enzyme & Function	Substrate	Conc. [μM]	Metabolite	Result***
<b>ECOD</b> 7-Ethoxycoumarin O-Deethylation	7-Ethoxycoumarin	75	7-HC, 7-HCG, and 7-HCS**	<b>288</b>
<b>UGT</b> 7-Hydroxycoumarin Glucuronidation	7-Hydroxycoumarin	30	7-HCG	<b>202</b>
<b>ST</b> 7-Hydroxycoumarin Sulfation	7-Hydroxycoumarin	30	7-HCS	<b>56.4</b>
<b>CYP1A2</b> Phenacetin O-Deethylation	Phenacetin	15	Acetaminophen	<b>36.7</b>
<b>CYP2A6</b> Coumarin 7-Hydroxylation	Coumarin	8	7-HC, 7-HCG, and 7-HCS	<b>TBD</b>
<b>CYP2B6</b> Bupropion Hydroxylation	Bupropion	250	Hydroxybupropion	<b>69.9</b>
<b>CYP2C8</b> Amodiaquine N-Desethylation	Amodiaquine	20	Desethylamodiaquine	<b>283</b>
<b>CYP2C9</b> Tolbutamide Methyl-Hydroxylation	Tolbutamide	150	4'-Methylhydroxytolbutamide	<b>TBD</b>
<b>CYP2C19</b> S-Mephenytoin 4'-Hydroxylation	S-mephenytoin	20	4'-Hydroxymephenytoin	<b>11.3</b>
<b>CYP2D6</b> Dextromethorphan O-Demethylation	Dextromethorphan	8	Dextrorphan	<b>32.5</b>
<b>CYP2E1</b> Chlorzoxazone 6-Hydroxylation	Chlorzoxazone	100	6-Hydroxychlorzoxazone	<b>65.5</b>
<b>CYP3A4</b> Testosterone 6β-Hydroxylation	Testosterone	50	6β-Hydroxytestosterone	<b>96.4</b>
<b>CYP3A4</b> Midazolam 1-Hydroxylation	Midazolam	15	1-Hydroxymidazolam	<b>97.2</b>
<b>AO</b> Aldehyde Oxidase	Carbazeran	10	4-Hydroxycarbazeran	<b>395</b>
<b>UGT1A1</b> UDP-Glucuronosyltransferase	β-Estradiol	10	β-Estradiol-glucuronide	<b>TBD</b>

\*\*7-Hydroxycoumarin (7-HC), 7-Hydroxycoumarin glucuronide (7-HCG), 7-Hydroxycoumarin sulfate (7-HCS)

\*\*\*Metabolite rate of formation is measured in pmol/min/10<sup>6</sup> cells

Metabolic assays are run in triplicate. Activity results analyzed by HPLC-UV or LC/MS/MS validated procedures. Metabolite formation for all enzymes, except AO & UGT1A1, is measured after a 60 min. cell incubation at 37°C, 5% CO<sub>2</sub> and a final conc. of 1 million cells/mL. Metabolite formation for AO & UGT1A1 is measured after a 15 min. cell incubation at a final concentration of 0.25 million cells/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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## LIVERPOOL® Mixed Gender Human Hepatocytes – 10-Donor Pool, Cryopreserved

### Donor Demographics, as reported to BioIVT

Age/ Gender	Race	Cause of Death	BMI	Social History	Medical History	Serology****		
						EBV	RPR	CMV
56 Female	Caucasian	CNS Tumor, ICH	23.5	ETOH: Social drinker - a couple times/year - duration unknown; Tobacco: 1/2 ppd x 30yrs - did not quit; Drugs: medical marijuana x 30yrs - did not quit	Fibromyalgia, psoriasis; MEDS: Flexeril, fluoxetine, Norco	IgG+	Negative	Positive
55 Female	Caucasian	Anoxia	25.2	ETOH: age 40-50 4-5 liquor drinks a day; Tobacco: 1-2 ppd x 42yrs; Drugs: Vaped THC, Adderall once, used others prescribed "pain pills"	T1DM-Diabetes > 25yrs, compliant, Hypertension x 25yrs - compliant, CAD: CABG 2016, Gastrointestinal disease (GERD), COPD/ Emphysema, aortic aneurysm repair 6 years ago, RA, Lymphadenopathy, 20-30 lb. weight loss; Covid-19 negative, Toxoplasma negative; MEDS: Metoprolol	IgG+	Negative	Negative
33 Female	Caucasian	Head Trauma/ Blunt Injury	22.0	ETOH: 3-4 drinks of wine or Moscow Mules socially, less than weekly, for the past 13-14 years; Drugs: Marijuana daily, smoked or ingested, for the last year; No Tobacco use	No Medical History Reported; Allergies: pollen and pet dander; Toxoplasmosis and West Nile NAT negative; MEDS: antidepressant, allergy medicine, birth control, acne medication, migraine medication - all names unknown	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.

As of March 5<sup>th</sup>, 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.

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Age/ Gender	Race	Cause of Death	BMI	Social History	Medical History	Serology****		
						EBV	RPR	CMV
42 Female	Caucasian	CVA	35.1	No ETOH, Tobacco, or Drug use	Heart surgery 38 years ago, ASD repair age 5	IgG+	Negative	Negative
60 Female	Caucasian	Anoxia/ Cardio- vascular	24.4	Tobacco: Smoked 1 ppd x 40 years- current; No ETOH or Drug use	COPD; Hypertension for 6-10 years; MEDS: inhaler	IgG+	Negative	Positive
62 Male	African American	Anoxia GSW/ Head	19.3	ETOH: 2-3 drinks per day x 30yrs; Tobacco: 1-2 ppd x 30yrs; Drugs: Marijuana use	No Medical History Reported	IgG +	Negative	Positive
18 Male	Caucasian	Trauma/ Suicide	19.0	No ETOH, Tobacco or Drug use	No Medical History Reported; West Nile NAT negative	Not Reported	Negative	Not Reported
56 Male	Caucasian	Anoxia 2nd to Cardio- vascular	28.1	ETOH: beer 1-2 times/month, 1 drink per occasion throughout adult life; Tobacco: 1 ppd x 38 years - did not quit; No Drug use	Hypertension - duration unknown, Hyperlipidemia - duration unknown; 4 heart attacks (MI) since age 39, Cardiac cath stents approx. 7 and 14 years ago, chronic joint pain, Covid vaccinated (Covid-19 negative); MEDS: Xanax, Lipitor, Zetia, Olmesartan, Metoprolol, Xarelto, Percocet, Aspirin, Multi-vitamin	IgG+	Negative	IgG+

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Age/ Gender	Race	Cause of Death	BMI	Social History	Medical History	Serology****		
						EBV	RPR	CMV
38 Male	Caucasian	Anoxia/ Seizure	31.4	No ETOH, Tobacco, or Drug use	Epilepsy; Cerebral palsy; seizures; Covid- 19 positive in the last 2 weeks; MEDS: Klonopin, Lacosamide, Lamictal, Keppra, Phenobarbital, Topamax, Lorazepam, steroid	IgG +	Negative	Negative
61 Male	Hispanic	Cardiac Arrest/ Cardio- vascular	27.0	Tobacco: 1ppd since age 16, quit for 4 years 25 years ago; Drugs: marijuana daily since adolescence, Tox screen positive for Cannabinoid/ THC; No ETOH use	Type II Diabetes x 10 years, Hypertension x 27 years, Hyper- cholesterolemia x 27 years, Myocardial Infarction 25 years ago - treated 11 months ago with triple bypass surgery, Skin cancer 2 years ago - removed surgically and considered cured, Hernia repair 28 years ago, foot surgery 5 years ago, CABG 11 months ago, Cardiac stent placement; EBNA positive; MEDS: blood pressure medication	IgG+	Negative	Positive

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