

# BD UltraPool HLM 150

## 150 Donor Human Liver Tissue Fraction Pools with Equal Gender Mix

BD UltraPool™ HLM 150 enables consistency in experimental results in multi-site and long-term programs by delivering reproducible data across multiple CYP and UGT enzymes as compared to smaller pools of donors.

### Features

- Provides lot-to-lot consistency based on activity of the major CYPs (CYP 1A2, 2C9, 2C19, 2D6, 3A4); suitable for metabolic stability, CYP inhibition and reaction phenotyping assays
- Enables availability of large lots for multi-year and multi-site programs
- Saves researcher time with extensive characterization of CYP, UGT, and FMO enzyme activity, and Western Blots
- Supports strict tissue traceability and sourcing from US-based Organ Procurement Organizations meeting high ethical standards.
- Adheres to high safety standards including serological testing prior to acceptance, followed by PCR testing for HIV I/II, Hepatitis B, Hepatitis C, HTLV 1/2 (human T-cell leukemia virus) pathogens, and CMV (cytomegalovirus)

### High degree of lot-to-lot consistency for CYP and UGT activity

BD UltraPool HLM 150 pool is statistically modeled so that lot-to-lot variability represented as coefficient of variation (CV) is <10% (mean) for the more variable CYP enzyme (CYP2C19), and <5% (mean) for the key drug metabolizing CYPs (CYP1A2, CYP2C9, CYP2D6 and CYP3A4). This lot-to-lot consistency is critical for researchers to achieve data consistency for metabolic stability, CYP inhibition and reaction phenotyping assays year after year with multiple HLM lots.

### Natural representation of the "average patient" and known CYP polymorphisms

The large donor pool (150 donors, 300 alleles for diploid genes), consisting of an equal donor mix on a per milligram microsomal protein basis provides the best representation of an "average patient" drug metabolism activity. BD UltraPool HLM 150 provides consistency and confidence in the assay data across a wide selection of discovery screening and development assays.

### Large lots available for multi-year drug discovery programs

The BD UltraPool HLM 150 donor pool size is prepared from donors where considerable tissue is available, and is manufactured in large lot sizes. This supports multi-year and multi-site programs by providing data consistency between ADME discovery screening and development groups. This donor pool size is specifically designed to serve the entire research organization - from drug discovery to drug development.

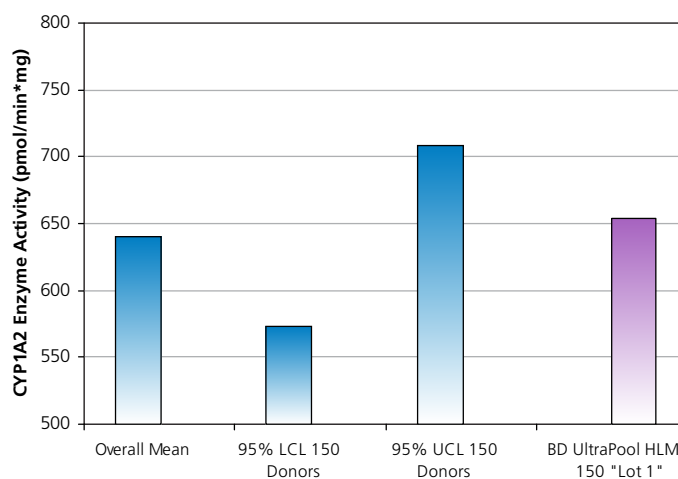


Illustration of the actual enzyme activity level for CYP1A2 in the BD UltraPool HLM 150 first lot and the calculated mean, upper and lower limits for a 150 donor pool based on Monte Carlo simulations. The bars are (from left to right): the overall mean, the 95% lower confidence limit, and the 95% upper confidence limit calculated based on the CV from Monte Carlo simulations for a 150 donor pool, and the measured CYP1A2 activity in the first lot of BD UltraPool HLM 150.

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## Lot-to-lot Consistency

	CYP1A2	CYP2C9	CYP2C19	CYP2D6	CYP3A4
<b>Monte Carlo Statistical Analysis</b>					
Mean (pmol/min*mg)	640	2600	70	88	4800
Std Dev	520	1200	105	72	4100
CV if Distribution was Normal	82%	47%	150%	82%	85%
50 Monte Carlo, mean (N=30)	9%	6%	17%	10%	12%
150 Monte Carlo, mean (N=30)	5%	3%	9%	4%	5%

Mean, standard deviation and calculated CV for CYP activity is from HLM isolated from over 300 donors. CV decreases as the pool size increases, and tends to level off after 150 donors. A reduction in CV as the donor number increases applies to all metabolic enzymes.

*The data shown above resulted from a Monte Carlo analysis modeling the expected variability in HLM pools of differing sizes. Variability is measured by CV.*

## Product Characterization

Assay	Enzymes
CYP	CYP1A2, 2A6, 2B6, 2C8, 2C9, 2C19, 2D6, 2E1, 3A, 4A11
Western Blot	CYP 3A4, 3A5
UGT	UGT1A1, 1A4, 1A6, 1A9, 2B7
Others	FMO, Total Cytochrome P450 content, Cytochrome P450 oxidoreductase, Cytochrome b <sub>5</sub> content

## Related Products

- Allelic Variant single donor HLM for rare drug metabolizing enzyme genotypes, ideal for personalized medicine applications
- Chemicals including substrates, inhibitors, metabolites, cofactors (NADPH and UDPGA), and buffers
- BD Supersomes™ recombinant drug metabolizing enzymes for reaction phenotyping assays and high-throughput CYP inhibition assays

## Order Information

Description	Qty.	Concentration	Cat. No.
<b>BD UltraPool Tissue Fractions – Human Liver Microsome, S9 and Cytosol</b>			
Mixed Gender Pooled 150 Donor HLM	0.5 mL	20 mg/mL protein	452117
Mixed Gender Pooled 150 Donor S9	1.0 mL	20 mg/mL protein	452116
Mixed Gender Pooled 150 Donor Cytosol	1.0 mL	20 mg/mL protein	452115
Mixed Gender Pooled 150 Donor HLM (80 vials of 452117 packaged in an easy-count box)	80 x 0.5 mL	20 mg/mL protein	452118
<b>To place an order in the U.S., contact Customer Service at:</b> tel: 877.232.8995 fax: 800.325.9637 <b>For technical assistance, contact Technical Support at:</b> tel: 877.232.8995 or 978.901.7389			

