



XENO TECH
A BioIVT Company



Cypex Bactosomes exhibit greater activity than CYP enzymes expressed in insect cells.

XenoTech is a distributor of Cypex Bactosomes in North America. Using recommended conditions, *E. coli* expressed recombinant enzymes exhibit greater activity than commercially available CYPs expressed from insect cells.



Bactosome Features

- Patented *E. coli* expression system
- Excellent batch-to-batch consistency
- Patented production method for native, or minimally-modified P450's
- Robust P450 activity levels
- Extensive batch-specific data (K_m , V_{max} , linearity with time and enzyme, at K_m)
- Comprehensive selection, including modified-reductase choices and controls
- ISO9001:2009 compliant production and quality control
- 10-30 minute linearity over time

Research has shown that rCYPs expressed in *E. coli* (Bactosomes) showed greater enzymatic activity compared with the same enzymes expressed in insect cells (Supersomes). Similarly, Bactosomes show greater turnover numbers when compared with Supersomes. These results demonstrate that human rCYPs expressed in *E. coli* are frequently more active than the corresponding rCYPs expressed in insect cells.¹

Bactosome Benefits

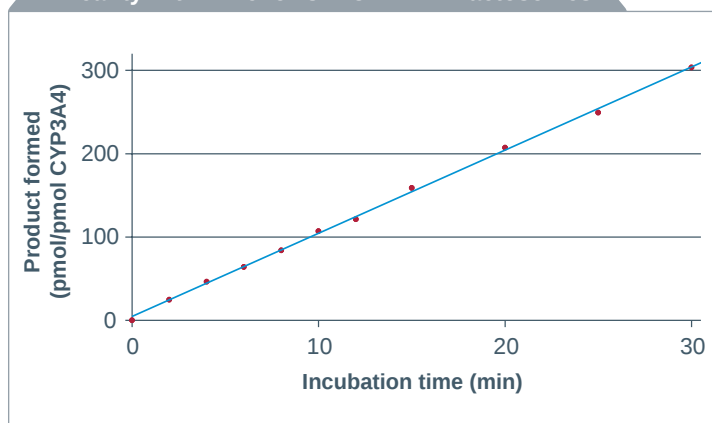
- Bactosomes utilize native P450 and better represent human enzymes
- Available with and without b5
- Different levels of reductase allow for high and low activities
- Reductase Bactosomes are optimized for metabolism
- Low Reductase Bactosomes developed specifically for inhibition assays
- Bactosomes exhibit the best linearity over time compared to competitor rCYPs
- Least expensive commercial option
- Extensive panel of P450s and Phase II expressed enzymes available
- Only commercial source for recombinant dog P450s

Customer rCYPs and metabolite generation services are available. Contact your account representative for details.

Linearity

Cypex Bactosomes show excellent linearity over time, allowing longer incubations, generating better results. Reductase and High Reductase Bactosomes exhibit a limited linearity of substrate turnover with time. This is due to the fact that they contain high levels of NADPH P450 reductase, in turn creating higher activity. Low Reductase Bactosomes contain lower levels of NADPH P450 reductase, enhancing the linearity of substrate turnover with time making Bactosomes a perfect system for inhibition studies and more comparable to activities found *in vivo*.

Linearity with Time for CYP3A4BLR Bactosomes



¹Settle K, et al, "A Comparison of Cytochrome P450 Activities in Bactosomes, Supersomes, and Human Liver Microsomes." Presented at ISSX, 2002

EasyCYP & Classic Bactosomes

Cypex EasyCYPs are the ultimate in convenience. EasyCYPs boast a standard concentration (1nmol/mL), standard protein concentration (10mg/mL) and a standard vial size (0.5mL). EasyCYP's can be used for Inhibition, Metabolism, Reaction Phenotyping and Metabolite Generation studies.

Each vial of Cypex classic bactosomes contains 1nmol of Cytochrome P450. These *E. coli* expressed recombinant enzymes exhibit greater activity than other commercially available CYPs expressed from insect cells.

XenoTech also carries a wide range of other human drug metabolizing enzymes including:

- SULTs (*SULT1A1*1*, *1A1*2*, *1A2*, *1A3*, *1B1*, *1C2*, *1E1*, *2A1*)
- GSTA1 and GSTM1
- Aldehyde Oxidase
- Aldehyde Dehydrogenase
- Carboxylesterase 1 and 2
- UGT1A6

EasyCYPs & Classic Bactosomes

CYP	EasyCYP	EasyCYP + b5	High Reductase	Low Reductase	b5
1A1	✓		✓	✓	
1A2	✓		✓	✓	
1B1	✓			✓	
1B1*3	✓			✓	
1B1*4	✓			✓	
2A6	✓	✓	✓		✓
2A13	✓		✓	✓	
2B6	✓	✓	✓	✓	✓
2C8	✓	✓	✓	✓	✓
2C9	✓	✓	✓	✓	✓
2C9*2	✓	✓	✓		✓
2C9*3	✓	✓	✓		✓
2C18	✓			✓	
2C19	✓	✓	✓	✓	✓
2D6	✓		✓	✓	
2D6*2	✓		✓		
2D6*10	✓		✓		
2D6*39	✓		✓		
2E1	✓	✓	✓		✓
2J2	✓			✓	
3A4	✓	✓	✓	✓	✓
3A5	✓	✓	✓	✓	✓
3A7	✓	✓	✓	✓	✓
4A11	✓	✓	✓	✓	✓
4F2	✓	✓			✓
4F3B	✓	✓	✓	✓	✓

Order this product online at www.xenotech.com
or contact a customer service representative at **+913.438.7450**;
877.588.7530 toll-free in North America.