

# BD Gentest™ High Throughput ADME Screening Tools

Screen for drug-drug interactions, human MDR1 (PGP) interactions, and metabolic stability.



## BD Gentest™ Human P450 Inhibition Screening Kits

Screen for drug-drug interactions

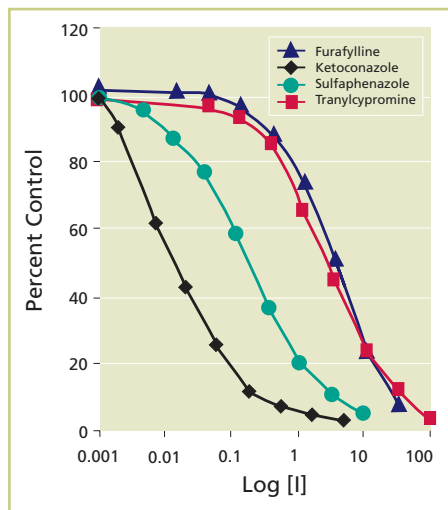
- Easy to use
- Established and validated technology
- Complete kit and detailed instruction manual

Adverse drug-drug interactions are a major reason drug candidates fail to obtain FDA approval. Many drug-drug interactions are metabolism-based; i.e., two or more drugs competing for metabolism by the same enzyme. The majority of these interactions involve cytochromes P450. Historically, the discovery of adverse drug interactions has occurred in clinical trials, or after the drug is commercially released. The availability of newly developed fluorescent P450 substrates now allows high throughput screening for potential P450 inhibitors in the early stages of drug discovery.

BD Gentest™ P450 High Throughput Inhibitor Screening Kits are designed to rapidly screen for potential inhibitors

of the principal drug metabolizing cytochrome P450 enzymes, CYP1A2, CYP2B6, CYP2C9, CYP2C19, CYP2D6, and CYP3A4. The IC<sub>50</sub> or percent inhibition at a given substrate concentration, can be calculated and become a basis for comparison between a series of tested compounds. Details about this new methodology can be found at the BD Gentest website ([www.gentest.com](http://www.gentest.com)).

Each BD Gentest P450 High Throughput Inhibitor Screening Kit provides all the necessary components and instructions for measuring the IC<sub>50</sub> value for up to 38 test compounds in 96-well plates. These kits can accommodate other plate formats, e.g., 384- and 1536-well, with proper scaling. Each Inhibitor Screening Kit includes the following components: recombinant human P450 (BD Supersomes™ Enzyme), fluorescent P450 substrate, positive control inhibitor, metabolite standard, NADPH regenerating system, reaction buffer, stop reagent, control membrane protein, and an instruction manual.



Inhibition data collected using selective human P450 inhibitors and BD Gentest™ fluorescent P450 assay technology.

## BD Biosciences

Clontech  
Discovery Labware  
Immunocytometry Systems  
Pharmingen



## BD Gentest™ Human Recombinant MDR1 Enzyme

### Screen for Human MDR1 (PGP) Interactions

- Faster, cheaper, and easier than cell-based assays
- Simple HTS assay protocol
- Established and validated technology

Human PGP (MDR1) is an ATP-dependent efflux pump capable of transporting many xenobiotics across cell membranes. High level expression of this protein has been linked to tumor resistance to chemotherapy. Chemicals that interact with MDR1 can be detected by measuring the increase in ATPase activity in membranes containing recombinant MDR1 versus membranes containing no recombinant enzyme (negative control). A method to perform a simple colorimetric ATPase assay in a 96-well plate is provided on the product insert. Greater methodological detail (including materials/reagents, preparation and storage of solutions, calculation of data, FAQs, references, and posters) is available on our website, [www.gentest.com](http://www.gentest.com). The recombinant enzyme and ATPase assay method produces data that correlates well with data from cell-based transport assays.

## BD Gentest™ Liver Tissue Fractions

### Screen for Metabolic Stability

- Large variety of products
- Multiple species
- Minimal lot-to-lot variability

Liver tissue fractions offer convenient and enriched sources of native enzymes for metabolic stability screening assays and other applications. The use of liver microsomes or S9 from various species to generate metabolite profiles helps to rapidly select an appropriate preclinical species to be used for future toxicity and pharmacokinetic studies.

BD Gentest Pooled Liver Fractions are formulated to represent an average profile of catalytic activities from many individuals. Pooled S9 allows analysis of the potential role of soluble enzymes (Phase II) in xenobiotic metabolism. Human liver microsomes from a pool of mixed genders, a single gender, or CMV sero negative donors are available. Tissue fraction products derived from animal liver are prepared from multiple, sexually mature animals. Many steps are taken during the manufacture of all pooled liver fractions to reduce lot-to-lot variability and ensure reproducibility. Complete assay results and donor information is provided on the product insert.

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## Ordering Information

Cat. No.	Description	Qty.
<b>P450 HTS Inhibition Kits</b>		
459100	CYP3A4/BFC	1 kit
459110	CYP3A4/BQ	1 kit
459200	CYP2D6/AMMC	1 kit
459300	CYP2C9/MFC	1 kit
459400	CYP2C19/CEC	1 kit
459500	CYP1A2/CEC	1 kit
459220	CYP2B6/EFC	1 kit
<b>Recombinant MDR1 Enzyme</b>		
453228	Human PGP (MDR1) Membranes	0.5 ml @ 5 mg/ml
453200	Control Membrane Preparation for ABC Transporters	0.5 ml @ 5 mg/ml
<b>Human Liver Microsomes</b>		
452161	Pooled	0.5 ml @ 20 mg/ml
452165	Pooled CMV Negative	0.5 ml @ 20 mg/ml
452172	Pooled Male	0.5 ml @ 20 mg/ml
452183	Pooled Female	0.5 ml @ 20 mg/ml
452861	Pooled, Cytosol	1.0 ml @ 20 mg/ml
452961	Pooled, S9	1.0 ml @ 20 mg/ml
<b>Animal Liver Microsomes</b>		
452401	Pooled Female Monkey (Cynomolgus)	US sale only 0.5 ml @ 20 mg/ml
452403	Pooled Male Monkey (Cynomolgus)	US sale only 0.5 ml @ 20 mg/ml
452423	Pooled Male Monkey (Rhesus)	US sale only 0.5 ml @ 20 mg/ml
452491	Pooled Female Monkey S9 (Cynomolgus)	US sale only 1.0 ml @ 20 mg/ml
452493	Pooled Male Monkey S9 (Cynomolgus)	US sale only 1.0 ml @ 20 mg/ml
452501	Pooled Male Rat (Sprague-Dawley)	0.5 ml @ 20 mg/ml
452502	Pooled Female Rat (Sprague-Dawley)	0.5 ml @ 20 mg/ml
452511	Pooled Male Rat (Wistar Han)	0.5 ml @ 20 mg/ml
452591	Pooled Male Rat S9 (Sprague-Dawley)	1.0 ml @ 20 mg/ml
452601	Pooled Male Dog (Beagle)	0.5 ml @ 20 mg/ml
452602	Pooled Female Dog (Beagle)	0.5 ml @ 20 mg/ml
452693	Pooled Male Dog S9 (Beagle)	1.0 ml @ 20 mg/ml
452701	Pooled Male Mouse (CD-1)	0.5 ml @ 20 mg/ml
452702	Pooled Female Mouse (CD-1)	0.5 ml @ 20 mg/ml
452791	Pooled Male Mouse S9 (CD-1)	1.0 ml @ 20 mg/ml
452792	Pooled Female Mouse S9 (CD-1)	1.0 ml @ 20 mg/ml

**To place an order in the U.S., contact Customer Service at:**  
tel: 800.343.2035 or 978.901.7300; fax: 800.743.6200 or 978.901.7493

**For technical assistance, contact Technical Service at:**  
tel: 800.343.2035 or 978.901.7300; fax: 800.743.6200 or 978.901.7493

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