Cytochrome P450 identification

Source	Pool of human liver microsomes
Estimation of linear condition*	5 different protein concentration x 6 incubation times
K_m, V_{max} and Cl_{int} estimation	One protein and incubation time, 15 concentrations of the test compound
Cytochrome P450 Chemical inhibitors	One protein and test compound concentration (K_m) and one incubation time.
Supersomes™**	One Supersomes™and test compound concentration (K_m) and one incubation time.
cDNA expressed CYPs in lymphoblastoid cells***	One cDNA expressed and test compound concentration (K_m) and one incubation time
Cytochrome P450 human polyclonal antibodies****	One polyclonal antibodies and test compound concentration (K_m) and one incubation time
Correlation analysis – n ≥ 20 individual donors	One protein and test compound concentration (K_m) and one incubation time
Analysis	HPLC-UV-radiodetection or HPLC-MS/MS

*: Typical protein concentration and incubation time: 100, 250, 500, 1000 and 2000 µg/mL; 0, 5, 10, 15, 30 and 60 min. Other concentrations and incubation times available.

**: Supersomes™ is supplied by the Gentest Corporation, Woburn, USA.

***: cDNA expressed CYPs in lymphoblastoid cells are supplied by the Gentest Corporation, Woburn, USA.

****: Cytochrome P450 human polyclonal antibodies are supplied by Cypex, Dundee, UK

CYP isoforms	Inhibitors	Concentrations (µM)
CYP1A2	Furafylline(*)	10
CYP2A6	Methoxsalen (**)	2.5
CYP2C8	Quercetin	5
CYP2C9	Sulfaphenazole	50
CYP2C19	Tranylcypromine	20
CYP2D6	Quinidine	1
CYP2E1	Diethyldithiocarbamate(*)	50
CYP3A	Ketoconazole	1

(*): Pre-incubation with NADPH regenerating system 15 min before addition of test compound.

(**): Pre-incubation with NADPH regenerating system 3 min before addition of test compound.

Supersomes™	cDNA expressed CYPs in lymphoblastoid cells	Cytochrome P450 human polyclonal antibodies
CYP1A1 + P450 reductase	CYP1A1 + P450 reductase	CYP1A1/1A2 and CYP1A1
CYP1A2 + P450 reductase	CYP1A2	CYP1A1/1A2
CYP2A6 + P450 reductase + cytochrome b5		CYP2A6
CYP2B6 + P450 reductase + cytochrome b5,	CYP2B6 no transfected CYP enzyme).	

CYP2C8 + P450 reductase + cytochrome b5	CYP2C8 + P450 reductase,	CYP2C8
CYP2C9-$_{Arg144}$ + P450 reductase + cytochrome b5	CYP2C9$_{-Arg\ 144}$ + P450 reductase,	CYP2C9
CYP2C9-$_{Cys144}$ + P450 reductase + cytochrome b5	CYP2C9$_{-Cys\ 144}$ + P450 reductase,	
CYP2C19+ P450 reductase + cytochrome b5	CYP2C19	CYP2C19.
CYP2D6$_{-Val374}$ + P450 reductase	CYP2D6 + P450 reductase	CYP2D6
CYP2E1 + P450 reductase + cytochrome b5	CYP2E1 + P450 reductase	CYP2E1
CYP3A4 + P450 reductase + cytochrome b5	CYP3A4 + P450 reductase	CYP3A4
CYP3A5 + P450 reductase		
CYP4A11 + reductase	CYP4A11	
control Supersomes® (containing no transfected CYP enzyme).	control lymphoblastoid cells (containing no transfected CYP enzyme)	