Drug-Metabolizing Enzyme Antibody Microarray Kit

(Each chip was produced by quadruple spotting of 0.1,0.3, 0.5, & 1.0 mg/mL antibodies)

Catalog Number: ABD1
Store at -20°C.
FOR RESEARCH USE ONLY

Introduction: This kit is for the determination of xenophobic-induced protein expression of drug-metabolizing enzymes. This chip also contains antibodies for apoptosis-, protein degradation-, and oxidative stress-related proteins.

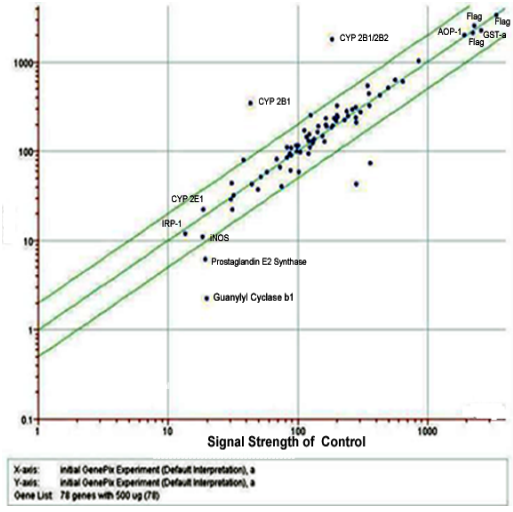
Contents: Each kit contains a chip, spin columns to clean Cy3- or Cy5-conjugated proteins, blocking buffer, hybridization buffer, non-specific binding prevention agents, and an instruction booklet. Internal control proteins to monitor Cy3 and Cy5 conjugation and hybridization efficiency are also included. Cy3 and Cy5 conjugation kit is not included.

Technology: Gene expression has been analyzed through DNA microarrays. However, mRNA expression of a gene may not correlate with protein expression because of the differences in rates of mRNA translation/degradation and post-translational modification. Detroit R&D, Inc. has developed a targeted array with antibodies involved with drug metabolism which will be an invaluable tool for toxicoproteimics. Two different concentrations of antibodies are apotted in duplicate in each block. Each chip contained top and bottom duplicate blocks (thus, 8 spots for an antibody are spotted on a slide).

Antibodies Spotted for Microarray

Cytochrome P450 (CYP)		
Phase I Drug-Metabolizing Enzyme:		~15
Co-enzyme for CYP activity:		2
Additional Phase I drug metabolizing enzyme:		1
Mitochondrial protein:		4
Apoptosis-related protein:	~10	
Intracellular protein degradation protein:		2
Phase II drug metabolizing enzyme:		7
Anti-oxidant protein:		2
Oxidative stress protein:	~20	
House keeping protein:		4
Internal control for signal normalization:		1
	Total:	~70

Signal Strength of PB-treated Samples



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Example of Utility: Control and phenobarital (PB)-treated proteins were labeled with both Cy3 and Cy5 for fluorescence swaps. After hybridization of the proteins in the non-denaturing condition, imaging and data mining of the arrays were carried out and the results obtained by microarray analyses were verified by Western blot analyses. Twelve up-regulated (higher than 2-fold) proteins included CYP2B1/2B2, a known inducible protein after PB treatment. Thus, this antibody microarray is an excellent tool for a thorough ADME assay for drug development or bed-side patient monitoring.