

**FOR RESEARCH USE ONLY. CAUTION:** Not intended for human diagnostic or therapeutic uses. Users should treat all human cells as potential pathogens. Wear protective clothing and eyewear. Practice appropriate disposal techniques for potentially pathogenic or bio-hazardous materials.

**PRODUCT INFORMATION:**

Product name: \_\_\_\_\_ Lot identifier: \_\_\_\_\_

Post-thaw viability of  $\geq$  \_\_\_\_ %

Post-thaw confluency  $\geq$  \_\_\_\_ % on day 5

Contains a minimum of \_\_\_\_ x 10<sup>6</sup> viable cells/mL

**DONOR DEMOGRAPHICS:**

Sex: \_\_\_\_\_ Age: \_\_\_\_\_ BMI: \_\_\_\_\_ Ethnicity: \_\_\_\_\_ Diagnosis: \_\_\_\_\_

Donor negative for: HIV, HCV, HBV, RPR

Culture negative for: Gram+, Gram-, Mycoplasm, Fungi

The cells from this lot were derived from tissue obtained from accredited institutions. Consent was obtained by these institutions from the donor or the donor's legal next of kin, for use of the tissue and its derivatives for research purposes.



\_\_\_\_\_  
Sr. VP, Research Alliances

\_\_\_\_\_  
Date

## ENZYME INDUCTION ACTIVITY

| ENZYME | TREATMENT               | mRNA FOLD-CHANGE |
|--------|-------------------------|------------------|
| CYP1A2 | Omeprazole (25 $\mu$ M) |                  |
| CYP2B6 | Phenobarbital (2 mM)    |                  |
| CYP3A4 | Rifampin (10 $\mu$ M)   |                  |

Hepatocytes were seeded on a 24-well plate pre-coated with collagen I, and cultured for 48 hours at 37°C in 5% CO<sub>2</sub> and 90% humidity. The hepatocytes were then incubated at 37°C in 5% CO<sub>2</sub> and 90% humidity with omeprazole (25  $\mu$ M, CYP1A2), phenobarbital (2 mM, CYP2B6), rifampin (10  $\mu$ M, CYP3A4) and vehicle control for 48 hours, respectively. The media were replaced every 24 hours with fresh media containing the positive inducers and vehicle. The mRNA levels of CYP1A2, CYP2B6 and CYP3A4 were determined using RT-PCR.

## METABOLIC ACTIVITY

| ENZYME      | SUBSTRATE                         | CONCENTRATION ( $\mu$ M) | ENZYME ACTIVITY<br>( <i>pmole/min/million cells</i> ) |
|-------------|-----------------------------------|--------------------------|---|
| CYP1A2      | Phenacetin                        | 100                      |   |
| CYP2A6      | Coumarin                          | 50                       |   |
| CYP2B6      | Bupropion                         | 500                      |   |
| CYP2C8      | Amodiaquine                       | 20                       |   |
| CYP2C9      | Diclofenac                        | 25                       |   |
| CYP2C19     | S-mephenytoin                     | 250                      |   |
| CYP2D6      | Dextromethorphan                  | 15                       |   |
| CYP2E1      | Chlorzoxazone                     | 250                      |   |
| CYP3A4      | Testosterone                      | 100                      |   |
| CYP3A4      | Midazolam                         | 20                       |   |
| Phase I CYP | 7-ethoxycoumarin                  | 100                      |   |
| SULT        | 7-hydroxycoumarin sulfation       | 100                      |   |
| UGT         | 7-hydroxycoumarin glucuronidation | 100                      |   |

Hepatocytes in suspension (0.5 million/mL) were incubated with substrate at 37°C in 5% CO<sub>2</sub> and 90% humidity for 30 minutes, respectively. The concentrations of the metabolites were determined using LC-MS/MS methods.

## TRANSPORTER ACTIVITY

| TRANSPORTER | SUBSTRATE                          | UPTAKE ACTIVITY RATE<br>( <i>pmole/min/million cells</i> ) |
|-------------|------------------------------------|--|
| OATP1B1/3   | Estrone 3-sulfate                  |  |
| OCT1/2      | 1-Methyl-4-phenylpyridinium iodide |  |
| NCTP        | Taurocholic acid                   |  |

Hepatocytes in suspension (0.5 million/mL) were incubated in substrate (10  $\mu$ M) on ice and then at 37°C for 3 minutes, respectively. Hepatocytes were separated from the medium by oil-spin method. The substrate concentrations were determined by specific LC/MSMS method.

| TRANSPORTER | SUBSTRATE        | EXPORT ACTIVITY RATE<br>( <i>pmole/min/million cells</i> ) |
|-------------|------------------|--|
| BSEP        | Glycocholic acid |  |

Hepatocytes in suspension (0.25 million/mL) were incubated with cholic acid-d4 (10  $\mu$ M) at 37°C in 5% CO<sub>2</sub> and 90% humidity for 60 minutes. The concentration of glycocholic acid were determined using a LC/MSMS method.