

# Product Characterization Sheet

## MEX3095

MetMax™ Mouse Enterocytes, Catalog Number 82137



### Specification

|                    |                           |
|--------------------|---------------------------|
| Number of donors   | 24                        |
| Volume             | 1.0 mL                    |
| Cell concentration | 2.0 x 10 <sup>6</sup> /mL |
| Plateability       | Suspension                |

### Demographics

|                     |            |
|---------------------|------------|
| Gender              | Male       |
| Strain              | CD-1       |
| Age                 | 8-12 weeks |
| Infectious diseases | Negative   |

### Drug Metabolism Activity

| Drug Metabolizing Enzyme | Substrate (μM)           | Metabolite Quantified                | Activity (pmol/minute/ million cells) |
|--------------------------|--------------------------|--------------------------------------|---------------------------------------|
| CYP1A2                   | Phenacetin (100)         | Acetaminophen                        | 110.3 ± 13.01                         |
| CYP2A6                   | Coumarin (50)            | 7-HC, 7-HC-Sulfate, 7-HC-Glucuronide | 0.01 ± 0                              |
| CYP2A6                   | Coumarin (50)            | 7-Hydroxycoumarin                    | 0.01 ± 0                              |
| CYP2A6                   | Coumarin (50)            | 7-Hydroxycoumarin Glucuronide        | 0 ± 0                                 |
| CYP2A6                   | Coumarin (50)            | 7-Hydroxycoumarin Sulfate            | 0.002 ± 0                             |
| CYP2B6                   | Bupropion (500)          | Hydroxybupropion                     | 27.6 ± 0.3                            |
| CYP2C8                   | Paclitaxel (20)          | 6α-hydroxypaclitaxel                 | 0.38 ± 0.07                           |
| CYP2C9                   | Diclofenac (25)          | 4-OH Diclofenac                      | 0.49 ± 0.1                            |
| CYP2C19                  | S-Mephenytoin (250)      | 4-OH S-Mephenytoin                   | 0.17 ± 0.16                           |
| CYP2D6                   | Dextromethorphan (15)    | Dextrophan                           | 5.81 ± 0.72                           |
| CYP2E1                   | Chlorzoxazone (250)      | 6-OH Chlorzoxazone                   | 5.89 ± 0.3                            |
| CYP3A4-1                 | Midazolam (20)           | 1-Hydroxymidazolam                   | 12.9 ± 0.44                           |
| CYP3A4-2                 | Testosterone (200)       | 6β-hydroxytestosterone               | 12.7 ± 5.27                           |
| ECOD                     | 7-Ethoxycoumarin (100)   | 7-HC, 7-HC-Sulfate, 7-HC-Glucuronide | 369 ± 1.04                            |
| ECOD                     | 7-Ethoxycoumarin (100)   | 7-Hydroxycoumarin                    | 362 ± 6.9                             |
| ECOD                     | 7-Ethoxycoumarin (100)   | 7-Hydroxycoumarin Glucuronide        | 0.42 ± 0.03                           |
| ECOD                     | 7-Ethoxycoumarin (100)   | 7-Hydroxycoumarin Sulfate            | 9.19 ± 1.47                           |
| UGT                      | 7-Hydroxycoumarin (100)  | 7-Hydroxycoumarin Glucuronide        | 152 ± 17.1                            |
| SULT                     | 7-Hydroxycoumarin (100)  | 7-Hydroxycoumarin Sulfate            | 1.23 ± 0.24                           |
| GST                      | Acetaminophen (10)       | Acetaminophen Glutathione            | 0.38 ± 0.04                           |
| UGT                      | Acetaminophen (10)       | Acetaminophen Glucuronide            | 0.17 ± 0.03                           |
| SULT                     | Acetaminophen (10)       | Acetaminophen Sulfate                | 0.034 ± 0.013                         |
| FMO                      | Benzydamine HCl (250)    | Benzydamine-N-Oxide                  | 6.62 ± 0.27                           |
| MAO                      | Kynuramine HCl (160)     | 4-hydroxyquinoline                   | 289 ± 10                              |
| AO                       | Carbazeran HCl (10)      | 4-Hydroxycarbazeran                  | 0.1 ± 0.01                            |
| NAT1                     | 4-Aminobenzoic HCl (200) | N-Acetyl-p-aminobenzoic acid         | 27.1 ± 1.46                           |
| NAT2                     | Sulfamethazine (100)     | N-Acetyl-sulfamethazine              | 1.58 ± 0.19                           |
| 1A1                      | 7-EROD (100)             | Resozufin                            | 0 ± 0                                 |
| 2J2                      | Astemizole (50)          | O-Demethyl Astemizole                | 11.6 ± 0.57                           |
| CES2                     | Irinotecan (50)          | SN38                                 | 1.14 ± 0.34                           |

**CYP450 Activity Assessment:** MetMax™ enterocytes were thawed in a 37°C water bath. A 1000 μL Eppendorf pipette (with tip) was used to pipet up and down three times to achieve homogeneity. MetMax™ enterocytes were prepared at a density of 2 million cells per mL. Equal volumes of MetMax™ enterocytes and 2X substrate were incubated for 15 minutes with isoform-selective substrates at 37°C. The final cell density of MetMax™ enterocytes and substrate was 1.0 million cells/mL in a 96-well plate (96 well plates pre-loaded with 50 μL of 2X substrates per well, and metabolism initiated by adding 50 μL of MetMax™ enterocytes to each of the wells, 100,000 hepatocytes/well). The metabolites were identified and analyzed using LC-MS/MS.

IVAL cell culture media and tissue culture plates used in this evaluation:

- Substrate preparation for incubation of hepatocytes - Cat. No. 81039/81040 - HQM™ Hepatocyte Incubation Media, 50 mL tube/500 mL bottle

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