

# Biosynthesis of human drug metabolites

We constructed mammalian DME expression system in yeast. We also constructed co-expression system of P450 and phase II enzymes. The metabolites can be used as authentic standards for NMR or LC/MS analysis and as test compounds for activity assay.

## Enzymes for metabolite preparation

### ◆ Cytochrome P450s

Isoform	Origin
1A1	human, rat
1A2	human, rat
1B1	human
2A6	human
2B1	rat
2B6	human
2C8	human
2C9	human
2C11	rat
2C18	human
2C19	human
2D6	human
2E1	human
2J2	human
2R1	human
3A4	human
4F3	human

### ◆ SULTs

Isoform	Origin
1A1	human, rat
1A3	human
1B1	human, rat
1C1	rat
1C4	human
1E1	human, rat
2A1	human

### ◆ UGTs

Isoform	Origin
1A1	human, rat, mouse
1A2	rat
1A3	human, rat, pig
1A4	human, rabbit
1A5	human, rat, mouse
1A6	human, rat, mouse
1A7	human, rat
1A8	human
1A9	human, mouse
1A10	human
2A1	human
2B1	rat, mouse
2B3	rat
2b5	mouse
2B4	human
2B6	rat
2B7	human
2B10	human
2B12	rat
2B15	human
2b34	mouse

◆ COMTs : cytosolic, membrane bound

◆ P450 and UGT : 35 strains

◆ P450 and SULT : 5 strains

◆ Mammalian liver fractions

◆ Microbial P450s expressed in *E. coli* :95 strains