

Would you have any trouble in preparing desire metabolites?

Technologies for metabolite biosynthesis

This technology would help you study on drug metabolism.

We have developed drug metabolite preparation system using genetically modified yeast cells. Metabolites can be used for analytical standards, structural confirmation and test compounds for evaluation.

Example for Glucuronide preparation

STEP1 : Cell culture

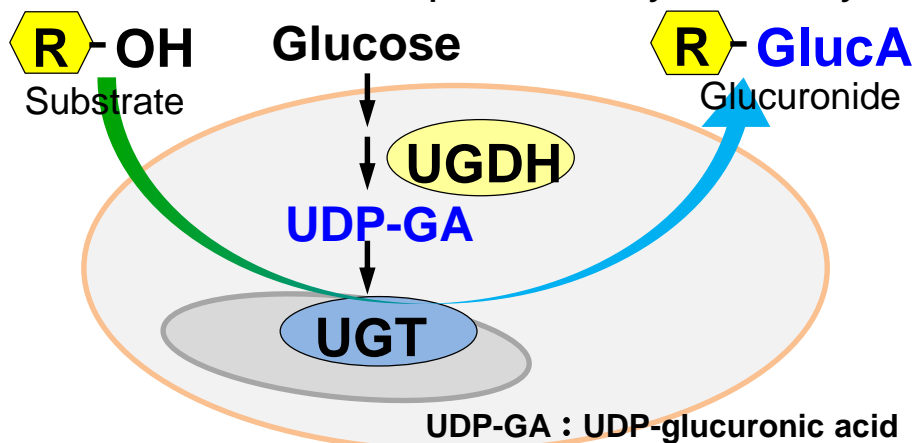
Cell culture and harvest



UGT : UDP-glucuronosyltransferase
UGDH : UDP-glucose dehydrogenase

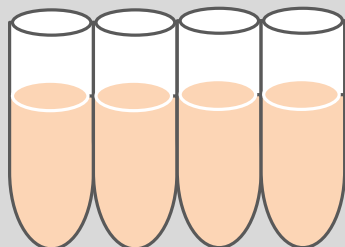
Feature 1

- UGT/UGDH co-expression system in yeast



STEP2: Reaction

- Substrate
- Yeast cells
- Buffer



Feature 2

- Simple process
- Cost reducing (Not required UDP-GA!)
- Stable enzymatic activities

STEP3: Purification

Purification by C18- columns

Large scale (10mg~)
biosynthesis of glucuronide

Services

1. Metabolite preparation

- ◆ P450
- ◆ UDP-glucuronosyltransferase (UGT)
- ◆ Sulfotransferase (SULT)
- ◆ Catechol-O-methyltransferase (COMT)

2. metabolism screening

- ◆ CYP :16 isozymes
- ◆ UGT :14 isozymes
- ◆ SULT : 6 isozymes
- ◆ COMT: 2 isozymes



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Line-up of metabolizing enzymes

We have abundant line-up of recombinant drug metabolizing enzymes in yeast cells such as CYPs, UGTs, SULTs and so on. We have also animal tissue fractions.

◆CYPs

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
2W1	human
3A4	human
4F3	human

◆SULTs

Isoform	Origin
1A1	human
1A3	human
1B1	human
1C4	human
1E1	human
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

◆COMT

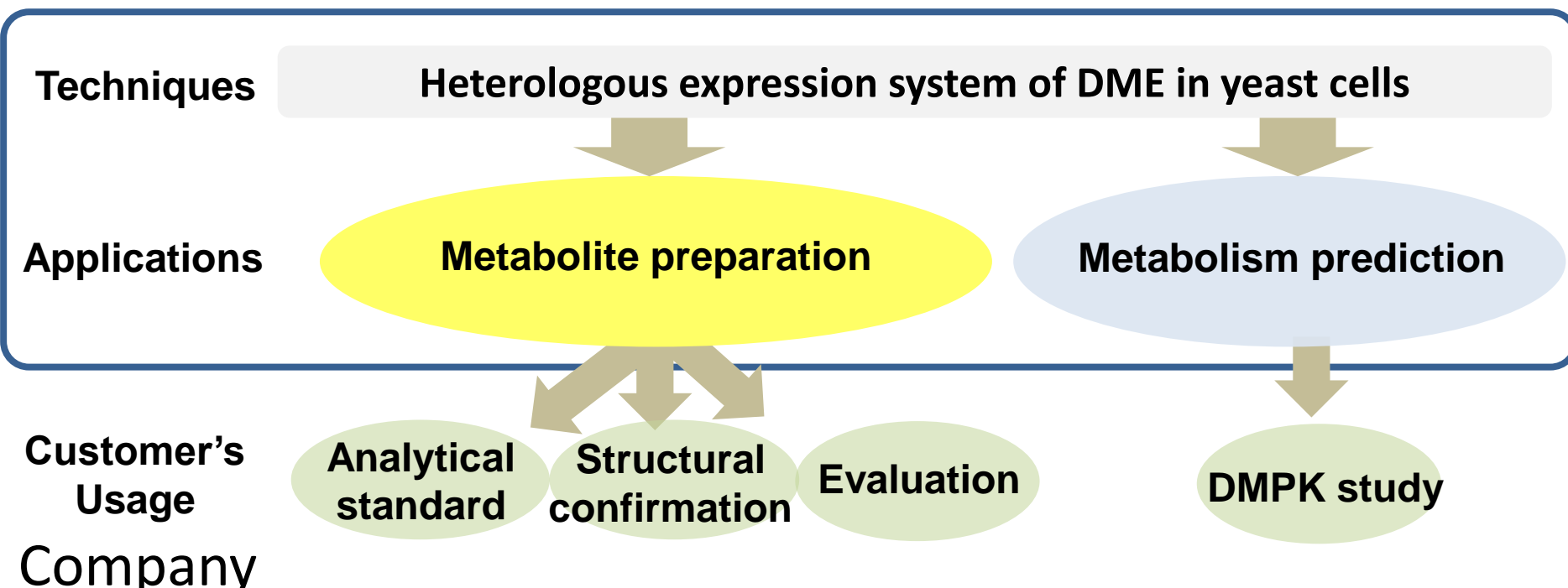
◆Animal tissue fractions



- ✓ TOPUBIO is a start up company established from TOyama Prefectural University in 2010.
- ✓ Provides drug metabolites prepared by biosynthesis using recombinant yeast cells.



Products and services



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