# Supplementary Material

Supplementary Table 1. HPLC analysis of SCFAs

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| --- | --- |
| Parameters | Conditions |
| HPLC | Waters Arc Premier HPLC system |
| Column | Xselect HSS T3 column (4.6 × 250 mm, 5 µm) |
| Mobile solvent | Time (min) | Flow rate | A: Acetonitrile (%) | B: Phosphate solution (%) |
| 0 | 1 | 5 | 95 |
| 8.00 | 2 | 5 | 95 |
| 16.00 | 2 | 5 | 95 |
| 16.01 | 1 | 5 | 95 |
| 20.00 | 1 | 5 | 95 |
| Column temperature | 30℃ |  |
| Injection volume | 5 μL |  |
| Detector | UV/Vis 210nm |  |
| Sampling rate | 10 points/second |  |
| Data model | Absorbance - MBF |  |

Supplementary Table 2. HPLC analysis of conjugated bile salts

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| --- | --- |
| Parameters | Conditions |
| HPLC | Waters Arc Premier HPLC system |
| Column | Waters TC-18 C18 reversed-phase chromatography column (4.6 × 250 mm, 5 µm) |
| Column flow rate | 1 mL/min |
| Mobile solvent | A: 7.5mmol/L tetra-butylammonium bisulfate in acetonitrile-water solution (60:40, pH 2.5) | B: 7.5mmol/L tetra-butylammonium bisulfate in acetonitrile-water solution (30:70, pH 2.5) |
|  | 10% | 90% |
| The percentage of mobile phase B increases from 10% to 70% in 30 minutes |
| Flow rate | 1.5 mL/min |
| Column temperature | 30℃ |
| Injection volume | 20 μL |
| Detection wavelength  | 200 nm |
| Detector | Waters 2489 UV / visible light |

Supplementary Table 3. Primers for qPCR

|  |  |
| --- | --- |
| Primer | Sequences(5’-3’) |
| 16s-F | GGTAGTCCACACAGTAAACGATGAA |
| 16s-R | CCCGTCAAATTCCTTTGAGTTTC |
| *BT\_0416*(B.T)-F | CCAGCCTCTGAAACTGGAGG |
| *BT\_0416*(B.T)-R | TTCTCCGTCATTCCCATCGC |
| *BT\_0416*(B.D)-F | TAGGCGCCGATTGGAAAACT |
| *BT\_0416*(B.D)-R | AGTCCCACTACGCCAATGTC |
| *ismA*-F | GGGCTTCACAAAGACAGACA |
| *ismA*-R | GTGCTCAATGCCGAACATAATC |



Supplementary figure 1. BT\_0416 amino acid sequence alignment. The blue background indicates the conserved amino acid sequence