**Supplementary Table 1. Individual metabolite response to antibiotic treatment *in vitro*.**

|  |  |  |  |
| --- | --- | --- | --- |
| Metabolitea  | Change in concentration with effective treatmentb | RI for three independent experimentsc | p-values for three independent experiments |
| 2-Aminobutyric acid | ↓ | 1182/1179/1181 | 2.2 x 10-4/ 3.0 x 10-5/ 8.9 x 10-7 |
| Alanine | ↑ | 1109/1105/1111 | 1.3 x 10-3/ 4.4 x 10-3/ 2.4 x 10-5 |
| Asparagine | ↑ | 1665/1664/1663 | 5.9 x 10-14/ 2.3 x 10-5/ 1.2 x 10-11 |
| Carbohydrate | ↑ | 2020/2019/2015 | 6.6 x 10-5/ 8.4 x 10-3/ 2.2 x 10-4 |
| Citric acid | ↑ | 1831/1831/1829 | 1.7 x 10-3/ 7.7 x 10-4/ 3.3 x 10-4 |
| Cysteine | ↓ | 1552/1551/1550 | 4.1 x 10-2/ 3.7 x 10-2/ 5.5 x 10-4 |
| Fructose | ↑ | 1866/1867/1863 | 5.2 x 10-4/ 3.7 x 10-3/ 9.2 x 10-9 |
| Glucose | ↑ | 1910/1910/1905 | 4.6 x 10-2/ 1.3 x 10-2/ 2.2 x 10-9 |
| Glutamic acid | ↑ | 1618/1616/1616 | 2.3 x 10-3/ 2.1 x 10-2/ 1.7 x 10-2 |
| Glutamine | ↑ | 1770/1769/1767 | 3.9 x 10-9/ 9.9 x 10-8/ 6.8 x 10-17 |
| Glycine | ↑ | 1308/1307/1306 | 2.9 x 10-8/ 2.2 x 10-6/ 5.7 x 10-9 |
| Homoserine | ↑ | 1454/1454/1453 | 1.4 x 10-4/ 2.1 x 10-6/ 1.9 x 10-3 |
| Inosine | ↑ | 2562/2562/2561 | 8.9 x 10-4/ 4.7 x 10-5/ 8.7 x 10-6 |
| Isoleucine | ↑ | 1298/1297/1295 | 3.0 x 10-4/ 3.4 x 10-5/ 7.9 x 10-5 |
| Malic acid | ↓ | 1486/1485/1484 | 5.8 x 10-2/ 7.6 x 10-2/ 1.2 x 10-2 |
| Mevalonic acid-1,5-lactone | ↓ | 1371/1366/1370 | 8.5 x 10-2/ 9.6 x 10-2/ 7.6 x 10-3 |
| Ornithine | ↑ | 1612/1611/1610 | 2.5 x 10-6/ 8.0 x 10-3/ 9.9 x 10-3 |
| Phenylalanine | ↑ | 1624/1623/1623 | 1.7 x 10-4/ 3.0 x 10-4/ 6.2 x 10-3 |
| Pyroglutamic acid | ↑ | 1523/1518/1522 | 8.7 x 10-4/ 2.7 x 10-3/ 2.7 x 10-2 |
| Ribitol | ↓ | 1719/1717/1714 | 7.2 x 10-2/ 6.5 x 10-2/ 7.6 x 10-3 |
| Ribose | ↓ | 1670/1670/1666 | 6.4 x 10-2/ 7.3 x 10-2/ 8.5 x 10-3 |
| Serine | ↑ | 1362/1360/1359 | 3.4 x 10-15/ 2.2 x 10-11/ 1.4 x 10-14 |
| Trehalose | ↑ | 2730/2730/2728 | 5.8 x 10-3/ 6.2 x 10-3/ 1.1 x 10-4 |
| Tryptophan | ↑ | 2207/2207/2207 | 1.9 x 10-4/ 9.2 x 10-4/ 6.2 x 10-2 |
| Tyrosine | ↑ | 1941/1940/1938 | 4.6 x 10-3/ 8.2 x 10-3/ 3.8 x 10-3 |
| Unid D | ↓ | 1380/1380/1379 | 1.1 x 10-3/ 4.6 x 10-2/ 1.1 x 10-4 |
| Unid I | ↑ | 1501/1500/1500 | 4.0 x 10-13/ 1.0 x 10-9/ 1.2 x 10-12 |
| Unid J | ↑ | 1631/1630/1629 | 7.0 x 10-2/ 2.1 x 10-2/ 2.0 x 10-2 |
| Unid K | ↑ | 1677/1677/1676 | 6.8 x 10-5/ 2.7 x 10-6/ 2.6 x 10-8 |
| Unid L | ↑ | 1761/1760/1758 | 1.1 x 10-2/ 5.1 x 10-2/ 1.6 x 10-3 |
| Unid P | ↑ | 2630/2630/2624 | 3.2 x 10-2/ 1.1 x 10-2/ 3.4 x 10-6 |
| Uric acid | ↑ | 2091/2091/2090 | 5.6 x 10-3/ 7.0 x 10-2/ 1.6 x 10-2 |

aSignificant metabolites common between samples from the three independent experiments of *in vitro* grown MRSA and MSSA.

bRefers to response to antibiotic treatment, where ↑/↓ indicates a higher/lower metabolite concentration in samples with effective treatment compared to samples with ineffective treatment.

cRetention index for all metabolites.