**Supplementary Table 5**. **Individual metabolite response common between *in vitro* grown MRSA and MSSA and
human *S. aureus* sepsis.**

|  |  |  |  |
| --- | --- | --- | --- |
| Metabolitea | Change in concentration with effective treatmentb |  Three independent *in vitro* experiments | Human *S. aureus* sepsis |
|  |  |  **RIc** | **p-valuesd** |  **w\*e** |  **RIc** | **p-valuesd** | **w\*e** |
| Alanine | ↑ | 1109/1105/1111 | \*\*/ \*/ \*\*\* | \*/\*/\* | 1123 |  | \* |
| Carbohydrate | ↑ | 2020/2019/2015 | \*\*\*/ \*\*\*/ \*\*\* | \*/\*/\* | 2020 |  | \* |
| Cysteine | ↓ | 1552/1551/1550 | \*/ \*/ \*\*\* | \*/\*/\* | 1552 |  | \* |
| Glutamine | ↑ | 1770/1769/1767 | \*\*\*/ \*\*\*/ \*\*\* | \*/\*/\* | 1769 | \* | \* |
| Homoserine | ↑ | 1454/1454/1453 | \*\*\*/ \*\*\*/ \*\* | \*/\*/\* | 1454 | \* | \* |
| Ornithine | ↑ | 1612/1611/1610 | \*\*\*/ \*\*/ \*\* | \*/\*/\* | 1611 | \* | \* |
| Ribitol | ↓ | 1719/1717/1714 | //\*\* | \*/\*/\* | 1712 |  | \* |
| Ribose | ↓ | 1670/1670/1666 | //\*\* | \*/\*/\* | 1670 |  | \* |
| Serine | ↑ | 1362/1360/1359 | \*\*\*/ \*\*\*/ \*\*\* | \*/\*/\* | 1363 |  | \* |
| Tryptophan | ↑ | 2207/2207/2207 | \*\*\*/ \*\*\*/ | \*/\*/\* | 2206 |  | \* |
| Unid D | ↓ | 1380/1380/1379 | \*\*/ \*\*/ \*\* | \*/\*/\* | 1380 |  | \* |
| Unid J | ↑ | 1631/1630/1629 | /\*/ \* | \*/\*/\* | 1630 |  | \* |
| Uric acid | ↑ | 2091/2091/2090 | \*\*/ / \* | \*/\*/\* | 2093 |  | \* |

aSignificant metabolites common between samples from human patients with severe sepsis caused by *S. aureus* and samples from the three independent analyses of *in vitro* growth of 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 (for *in vitro* experiments) and in late time point, 144h-2weeks after admittance, compared to acute phase infection samples, 0-24h after admittance (for human sepsis).

cRetention index for all metabolites.

dSignificance regarding p-values is stated with \* for p < 0.05, \*\* for p < 0.01 and \*\*\* for p < 0.001.

eSignificance regarding w\* is stated with \* for -0.04 > w\* > 0.04.