

Table S1. Pearson's correlation matrix for enzyme activity and relative gene expression level in *E. coli* under NPs treatment.

|                    | CAT    | PER    | SOD    | <i>katG</i> | <i>katE</i> | <i>ycdB</i> | <i>sodA</i> | <i>sodB</i> | <i>sodC</i> |
|--------------------|--------|--------|--------|-------------|-------------|-------------|-------------|-------------|-------------|
| <b>CAT</b>         | 1.000  | 0.950* | 0.858  | 0.657       | 0.454       | 0.674       | -0.271      | 0.058       | 0.621       |
| <b>PER</b>         | 0.950* | 1.000  | 0.965* | 0.820       | 0.618       | 0.832       | 0.012       | 0.200       | 0.782       |
| <b>SOD</b>         | 0.858  | 0.965* | 1.000  | 0.942*      | 0.796       | 0.948*      | 0.259       | 0.426       | 0.917*      |
| <b><i>katG</i></b> | 0.657  | 0.820  | 0.942* | 1.000       | 0.945*      | 0.998*      | 0.540       | 0.678       | 0.997*      |
| <b><i>katE</i></b> | 0.454  | 0.618  | 0.796  | 0.945*      | 1.000       | 0.944*      | 0.676       | 0.881*      | 0.968*      |
| <b><i>ycdB</i></b> | 0.674  | 0.832  | 0.948  | 0.998*      | 0.944*      | 1.000       | 0.523       | 0.679       | 0.995*      |
| <b><i>sodA</i></b> | -0.271 | 0.012  | 0.259  | 0.540       | 0.676       | 0.523       | 1.000       | 0.755       | 0.569       |
| <b><i>sodB</i></b> | 0.058  | 0.200  | 0.426  | 0.678       | 0.881*      | 0.679       | 0.755       | 1.000       | 0.735       |
| <b><i>sodC</i></b> | 0.621  | 0.782  | 0.917  | 0.997*      | 0.968*      | 0.995*      | 0.569       | 0.735       | 1.000       |

CAT – catalase activity; PER – peroxidase activity; SOD - superoxide dismutase activity; *katG*, *katE*, *ycdB*, *sodA*, *sodB*, *sodC* - relative gene expression level; \*level of significance  $p < 0.05$ .

Table S2. Pearson's correlation matrix for enzyme activity and relative gene expression level in *B. cereus* under NPs treatment.

|                     | CAT    | PER    | SOD    | <i>katA</i> | <i>katE</i> | <i>tpx</i> | <i>yojM</i> | <i>sodA1</i> | <i>sodA2</i> |
|---------------------|--------|--------|--------|-------------|-------------|------------|-------------|--------------|--------------|
| <b>CAT</b>          | 1.000  | 0.872  | 0.853  | 0.526       | 0.528       | 0.816      | 0.929*      | 0.852        | -0.187       |
| <b>PER</b>          | 0.872  | 1.000  | 0.888* | 0.417       | 0.649       | 0.774      | 0.882*      | 0.744        | -0.058       |
| <b>SOD</b>          | 0.853  | 0.888* | 1.000  | 0.147       | 0.267       | 0.493      | 0.737       | 0.638        | 0.214        |
| <b><i>katA</i></b>  | 0.526  | 0.417  | 0.147  | 1.000       | 0.520       | 0.811      | 0.487       | 0.318        | -0.234       |
| <b><i>katE</i></b>  | 0.528  | 0.649  | 0.267  | 0.520       | 1.000       | 0.849      | 0.783       | 0.743        | -0.710       |
| <b><i>tpx</i></b>   | 0.816  | 0.774  | 0.493  | 0.811       | 0.849       | 1.000      | 0.892*      | 0.784        | -0.493       |
| <b><i>yojM</i></b>  | 0.929* | 0.882* | 0.737  | 0.487       | 0.783       | 0.892*     | 1.000       | 0.960*       | -0.466       |
| <b><i>sodA1</i></b> | 0.852  | 0.744  | 0.638  | 0.318       | 0.743       | 0.784      | 0.960*      | 1.000        | -0.612       |
| <b><i>sodA2</i></b> | -0.187 | -0.058 | 0.214  | -0.234      | -0.710      | -0.493     | -0.466      | -0.612       | 1.000        |

CAT – catalase activity; PER – peroxidase activity; SOD - superoxide dismutase activity; *katA*, *katE*, *tpx*, *yojM*, *sodA1*, *sodA2* - relative gene expression level; \*level of significance  $p < 0.05$ .

Table S3. Pearson's correlation matrix for enzyme activity and relative gene expression level in *S. epidermidis* under NPs treatment.

|                    | CAT    | PER    | SOD    | <i>bsaA</i> | <i>katA</i> | <i>npr</i> | <i>tpx</i> | <i>sodA</i> |
|--------------------|--------|--------|--------|-------------|-------------|------------|------------|-------------|
| <b>CAT</b>         | 1.000  | 0.918* | 0.976* | -0.268      | 0.065       | -0.164     | -0.186     | -0.230      |
| <b>PER</b>         | 0.918* | 1.000  | 0.879* | -0.403      | -0.019      | -0.326     | -0.351     | -0.366      |
| <b>SOD</b>         | 0.976* | 0.879* | 1.000  | -0.393      | -0.109      | -0.295     | -0.340     | -0.363      |
| <b><i>bsaA</i></b> | -0.268 | -0.403 | -0.393 | 1.000       | 0.912*      | 0.993*     | 0.946*     | 0.998*      |
| <b><i>katA</i></b> | 0.065  | -0.019 | -0.109 | 0.912*      | 1.000       | 0.936*     | 0.908*     | 0.931*      |
| <b><i>npr</i></b>  | -0.164 | -0.326 | -0.295 | 0.993*      | 0.936*      | 1.000      | 0.962*     | 0.997*      |
| <b><i>tpx</i></b>  | -0.186 | -0.351 | -0.340 | 0.946*      | 0.908*      | 0.962*     | 1.000      | 0.959*      |
| <b><i>sodA</i></b> | -0.230 | -0.366 | -0.363 | 0.998*      | 0.931*      | 0.997*     | 0.959*     | 1.000       |

CAT – catalase activity; PER – peroxidase activity; SOD - superoxide dismutase activity; *bsaA*, *katA*, *npr*, *tpx*, *sodA* - relative gene expression level; \*level of significance  $p < 0.05$ .