

**S1 Table.** List of primers used for screening metal tolerant genes in *Chrysobacterium* sp. PMSZPI

| Primer | Oligo sequences 5'-3'           | Target Genes (Organisms)   | Annealing Tm (°C) |
|--------|---------------------------------|--|-------------------|
| czcAF1 | CGACCTGCGCACCNENCARGAYTG        | <i>czcA</i> gene<br>( <i>Chryseobacterium</i> sp.,<br><i>Serratia</i> sp.,<br><i>Pseudomonas</i> sp.)        | 46                |
| czcAR1 | CGGGTGGAACATCTTGCCYTCNWSNCC     |  |                   |
| czcDF2 | CGATGCCGGCCATATGYTNWSNGA        | <i>czcD</i> gene<br>( <i>Arthrobacter</i> sp.)   | 49                |
| czcDR2 | CGGATGTAATTGTCCAAATATGNARRTCRTG |  |                   |
| 81JC   | GGATGTCCTTGTGCTYTART            | <i>cadA</i> gene<br>( <i>Bacillus</i> , <i>Acinobacter</i> ,<br><i>Pseudomonas</i> )(Martinez<br>et al.2006) | 49                |
| 84JC   | GGAGCATCGTTAATDCCRTCDC          |  |                   |

Table 2: List of primers for qRT-PCR studies

| Primer | Oligo sequences 5'-3' | Amplicon Size (bp) | Target Gene     |
|--------|-----------------------|--------------------|-----------------|
| ZP1Fc  | GGTGGATAGAGATGGGCACG  | 107                | <i>16S rRNA</i> |
| ZP1Rc  | AGTACCAGTGTGGGGGATCA  |                    |                 |
| ZP1F1a | TGATGTTTTTCGCAGCATTGG | 103                | <i>czcA</i>     |
| ZP1R1a | TCCCAAAGTCCCTCACTCC   |                    |                 |
| PMZF2b | CCCGGTTGCTACTGCAATTC  | 110                | <i>cadA</i>     |
| PMZR2b | TTCCATTCACCGTTGCTTTCA |                    |                 |
| ZP1F1d | GGAGTCATGATTGCCGGAGTT | 120                | <i>czcD</i>     |
| ZP1R1d | AGCCTCCATCAACAGTTTCCA |                    |                 |

Table 3: BLASTX analysis of metal transporters from *Chryseobacterium* sp. (PMSZPI)

| Gene Name<br>(Accession. No)  | The closest match of metal tolerant genes from PMSZPI<br>with those in NCBI Database after BLASTX               | Similarity<br>Percentage |
|-------------------------------|---|--------------------------|
| <b><i>czcA</i></b> (MH423682) | CusA/CzcA family heavy metal efflux RND transporter<br>[ <i>Chryseobacterium</i> sp. UNC8MFCo] (WP_027372322.1) | 98                       |
| <b><i>czcD</i></b> (MH394701) | Cation diffusion facilitator family transporter<br>[ <i>Chryseobacterium</i> sp. ISE14] (WP109713444.1)         | 97                       |
| <b><i>cadA</i></b> (JN034431) | Cadmium-translocating P-type ATPase<br>[ <i>Chryseobacterium</i> sp. ISE14] (WP_103246897.1)                    | 98                       |