**S4 Table** Amino acid sequence identities between the heavy metal transporter of *M. notabilis* and *Ma-GY62*

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Gene namea** | **Amino acid sequence identity** | **Gene name** | **Amino acid sequence identity** | **Gene name** | **Amino acid sequence identity** | **Gene name** | **Amino acid sequence identity** |
| *MnIRT1*/*MaIRT1* | 98.7% | *MnNRAMP1/MaNRAMP1* | 93% | *MnHMA1/MaHMA1* | 97% | *MnMTP1/MaMTP1* | 99% |
| *MnIRT2/MaIRT2* | 97% | *MnNRAMP2/MaNRAMP2* | 98% | *MnHMA2/MaHMA2* | 95% | *MnMTP2/MaMTP2* | 99% |
| *MnZIP1/MaZIP1* | 98% | *MnNRAMP3/MaNRMP3* | 99% | *MnHMA3/MaHMA3* | 94% | *MnMTP3/MaMTP3* | 96.7% |
| *MnZIP2/MaZIP2* | 92% | *MnNRAMP4/MaNRAMP4* | 89% | *MnHMA4/MaHMA4* | 99% | *MnMTP4/MaMTP4* | 97% |
| *MnZIP3/MaZIP3* | 100% |  |  | *MnHMA5/MaHMA5* | 98% | *MnMTP5/MaMTP5* | 99% |
| *MnZIP4/MaZIP4* | 92% |  |  | *MnHMA6/MaHMA6* | 96% | *MnMTP6/MaMTP6* | 98% |
| *MnZIP5/MaZIP5* | 98% |  |  | *MnHMA7/MaHMA7* | 98% | *MnMTP7/MaMTP7* | 96% |
| *MnZIP6/MaZIP6* | 93% |  |  | *MnHMA8/MaHMA8* | 98% | *MnMTP8/MaMTP8* | 98% |
| *MnZIP7/MaZIP7* | 98% |  |  |  |  | *MnMTP9/MaMTP9* | 87% |
|  |  |  |  |  |  | *MnMTP10/MaMTP10* | 97% |

**GeneBank accession numbers：MaIRT1 (MG773163), MaIRT2 (MG773162), MaZIP1 (MG773164), MaZIP2 (MG773170), MaZIP3 (MG773169), MaZIP4 (MG773166), MaZIP5 (MG773165), MaZIP6 (MG773167), MaZIP7(MG773168), MaNRAMP1 (MG773172), MaNRAMP2(MG773171), MaNRAMP3 (MG773173), MaNRAMP4 (MG773174), MaHMA1 (MG773177), MaHMA2 (MG773181), MaHMA3 (MG773179), MaHMA4 (MG773182), MaHMA5 (MG773178), MaHMA6 (MG773176), MaHMA7 (MG773180), MaHMA8 (MG773175), MaMTP1 (MG773183), MaMTP2 (MG773191), MaMTP3 (MG773189), MaMTP4 (MG773185), MaMTP5 (MG773186), MaMTP6 (MG773184), MaMTP7 (MG773192), MaMTP8 (MG773187), MaMTP9 (MG773188), and MaMTP10 (MG773190).**