**SUPPLEMENTARY TABLES**

Please browse Full Text version to see the data of Supplementary Table 1.

**Supplementary Table 1.** (Uploaded xls file) DEGs in between worms with high MV and worms with low MV.
Differentially expressed genes (DEGs) of each microarray data set were determined by three criteria (I) present probe; (II) combined p-values (<0.05); and (III) absolute log2 fold-changes (>0.58, 1.5 fold change).

**Supplementary Table 2.** Mitochondria-related genes up- and down-regulated in worms with low MV.

| No. | WB ID            | Sequence name | Gene name | UP/DOWN in low MV |
|-----|------------------|---------------|-----------|-------------------|
| 1   | WBGene00000182   | B0336.2       | arf-1.2   | UP                |
| 2   | WBGene00000230   | F27C1.7       | atp-3     | UP                |
| 3   | WBGene00018763   | F53F10.1      | F53F10.1  | UP                |
| 4   | WBGene00002981   | ZK593.6       | lgg-2     | UP                |
| 5   | WBGene00008980   | F20D1.10      | tag-299   | UP                |
| 6   | WBGene00016943   | C55B7.4       | acdh-1    | DOWN              |
| 7   | WBGene00001566   | C28C12.9      | acdh-13   | DOWN              |
| 8   | WBGene00000206   | F35G12.10     | asb-1     | DOWN              |
| 9   | WBGene00010015   | F54B3.3       | atad-3    | DOWN              |
| 10  | WBGene00010042   | F54C9.6       | bcs-1     | DOWN              |
| 11  | WBGene00011872   | T20G5.10      | blos-1    | DOWN              |
| 12  | WBGene000077500  | C27H6.9       | C27H6.9   | DOWN              |
| 13  | WBGene00014172   | ZK970.2       | clpp-1    | DOWN              |
| 14  | WBGene00000550   | T12E12.4      | drp-1     | DOWN              |
| 15  | WBGene00017159   | F01F1.2       | F01F1.2   | DOWN              |
| 16  | WBGene00017301   | F09F7.4       | F09F7.4   | DOWN              |
| 17  | WBGene00017770   | F25B4.7       | F25B4.7   | DOWN              |
| 18  | WBGene00018426   | F44E7.4       | F44E7.4   | DOWN              |
| 19  | WBGene00019022   | F58A6.1       | F58A6.1   | DOWN              |
| 20  | WBGene0001486    | F59G1.7       | frh-1     | DOWN              |
| 21  | WBGene00011083   | R07B1.12      | glo-1     | DOWN              |
| 22  | WBGene00016266   | C30F12.7      | idhg-2    | DOWN              |
| 23  | WBGene00002879   | C29E4.8       | let-754   | DOWN              |
| 24  | WBGene00008415   | D2030.5       | mce-1     | DOWN              |
| 25  | WBGene00022373   | Y92H12BR.8    | mrpl-15   | DOWN              |
| 26  | WBGene00022470   | Y119C1B.4     | mrpl-19   | DOWN              |
| 27  | WBGene00012992   | Y48C3A.10     | mrpl-20   | DOWN              |
| 28  | WBGene00019076   | F59A3.3       | mrpl-24   | DOWN              |
| 29  | WBGene00020796   | T25D3.2       | mrpl-28   | DOWN              |
| 30  | WBGene00011334   | T01E8.6       | mrps-14   | DOWN              |
| 31  | WBGene00022583   | ZC262.8       | mrps-18A  | DOWN              |
| 32  | WBGene00016142   | C26E6.6       | mrps-18C  | DOWN              |
| 33  | WBGene00017319   | F09G8.3       | mrps-9    | DOWN              |
| 34  | WBGene00020625   | T20F5.3       | mrf-1     | DOWN              |
| 35  | WBGene00009559   | F39B2.11      | mtx-1     | DOWN              |
| 36  | WBGene00004190   | T27F6.5       | pars-2    | DOWN              |
| 37  | WBGene0004092    | F44C4.5       | ppt-1     | DOWN              |
| 38  | WBGene00020222   | R12C12.1      | R12C12.1  | DOWN              |
| 39  | WBGene00011309   | R186.8        | R186.8    | DOWN              |
| 40  | WBGene00044305   | F56H1.6       | rad-8     | DOWN              |
| 41  | WBGene00015391   | C03G5.1       | sdha-1    | DOWN              |
| NO. | WB ID          | Sequence name | Gene name | Fold change in low MV/high MV |
|-----|----------------|---------------|-----------|------------------------------|
| 1   | WBGene00019327 | K02F3.4       | zip-2     | 3.4                          |
| 2   | WBGene00003602 | H01A20.1      | nhr-3     | 3.3                          |
| 3   | WBGene00009827 | F47G4.6       | hmg-6     | 3.3                          |
| 4   | WBGene00006775 | F56A12.1      | unc-39    | 3.2                          |
| 5   | WBGene00001210 | K11G9.4       | egl-46    | 3.2                          |
| 6   | WBGene00000430 | C16C2.1       | ceh-5     | 3.1                          |
| 7   | WBGene00000435 | W03A3.1       | ceh-10    | 3.0                          |
| 8   | WBGene00003653 | C06C6.4       | nhr-63    | 2.9                          |
| 9   | WBGene00000561 | C34E10.7      | cnd-1     | 2.9                          |
| 10  | WBGene00000463 | C28A5.4       | ceh-43    | 2.8                          |
| 11  | WBGene00003651 | W01D2.2       | nhr-61    | 2.6                          |
| 12  | WBGene00004949 | K08A8.2       | sox-2     | 2.6                          |
| 13  | WBGene00003648 | R11G11.2      | nhr-58    | 2.5                          |
| 14  | WBGene00004786 | F44A6.2       | sex-1     | 2.4                          |
| 15  | WBGene00001081 | F47A4.2       | dpy-22    | 2.3                          |
| 16  | WBGene00001976 | T05A7.4       | hmg-11    | 2.2                          |
| 17  | WBGene00019741 | M02H5.3       | nhr-201   | 2.1                          |
| 18  | WBGene00012317 | W06H12.1      | ztf-6     | 2.1                          |
| 19  | WBGene00009939 | F52F12.6      | ztf-11    | 2.1                          |
| 20  | WBGene00004751 | K10G6.3       | sea-2     | 2.0                          |
| 21  | WBGene00022554 | ZC204.2       | duxl-1    | 2.0                          |