**Supplemental Table S1.** Total RNA-Seq reads sequenced, quality trimmed, and successfully mapped as pairs for each bacteriocyte and body tissue sample in aphid host-plant treatments.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **RNA-Seq samples** | **Total reads (76bps)** | **Total reads after trimming** | **Mapped reads (paired) aphid** | **Mapped reads (paired) aphid mitochondria** | **Mapped reads (paired) *Buchnera*** |
| **Fava sub-lines** | | | | | |
| F1 Bacteriocytes | 80,723,826 | 78,784,391 | 54,923,680 | 4,806,919 | 4,415,454 |
| F1 Body Cells | 79,079,310 | 77,647,276 | 70,404,510 | 2,201,097 | 0 |
| F2 Bacteriocytes | 81,633,998 | 80,354,255 | 62,761,468 | 5,706,771 | 4,044,574 |
| F2 Body Cells | 71,198,024 | 70,070,023 | 63,865,253 | 1,820,167 | 0 |
| F3 Bacteriocytes | 70,949,482 | 69,808,557 | 53,732,216 | 5,144,344 | 3,783,378 |
| F3 Body Cells | 65,093,760 | 63,966,507 | 58,063,394 | 1,797,792 | 0 |
| **Alfalfa sub-lines** | | | | | |
| A1 Bacteriocytes | 79,467,956 | 78,029,643 | 58,310,550 | 4,234,872 | 7,225,132 |
| A1 Body Cells | 74,620,738 | 73,329,565 | 65,953,928 | 2,525,267 | 0 |
| A2 Bacteriocytes | 59,473,084 | 58,527,569 | 45,256,013 | 3,340,620 | 4,239,528 |
| A2 Body Cells | 81,804,270 | 80,484,347 | 72,470,031 | 2,619,471 | 0 |
| A3 Bacteriocytes | 68,459,816 | 65,527,271 | 49,942,569 | 4,306,359 | 3,208,866 |
| A3 Body Cells | 68,934,700 | 66,654,812 | 59,286,048 | 2,129,278 | 0 |

F1, F2, and F3 denote 3 biological replicates of fava feeding aphids. A1, A2, and A3 denote 3 biological replicates of alfalfa feeding aphids.