S1A Table. 20 miRNAs make up the majority of miRNAs detected in total small RNA, Ago1, and Ago2 RISC.

| miRNA     | Male Wildtype | Ago1 RISC | Ago2 RISC | Total abundance | Ago1 RISC | Ago2 RISC |
|-----------|---------------|-----------|-----------|-----------------|-----------|-----------|
|           | Young abundance | Old       | Young abundance | Old       | Young       | Old       | Young       | Old       | Total of top 20 miRNAs | Other miRNAs |
| miR-276a-3p | 25.2 | 20.8 | 17.2 | 13.9 | 19.8 | 18.0 | 23.3 | 17.4 | 16.7 | 16.9 | 19.9 | 14.8 |
| miR-276b-3p | 16.4 | 14.1 | 13.3 | 10.5 | 15.3 | 13.3 | 15.4 | 12.1 | 12.5 | 12.1 | 14.3 | 11.4 |
| miR-1-3p    | 15.4 | 9.5 | 22.5 | 11.9 | 16.0 | 11.2 | 18.7 | 10.1 | 18.3 | 12.9 | 15.6 | 10.8 |
| bantam-3p   | 8.0  | 7.8 | 5.1  | 4.8  | 6.0  | 5.4  | 7.1  | 7.6  | 5.7  | 4.3  | 5.0  | 4.1  |
| miR-8-3p    | 4.1  | 4.6 | 3.5  | 6.0  | 3.6  | 4.5  | 4.1  | 5.9  | 4.5  | 5.0  | 3.0  | 5.3  |
| miR-956-3p  | 2.7  | 3.7 | 3.0  | 4.7  | 3.2  | 4.9  | 3.0  | 3.6 | 2.6  | 3.0  | 3.0  | 2.9  |
| miR-999-3p  | 2.6  | 1.6 | 2.0  | 1.3  | 1.5  | 1.2  | 2.4  | 1.4  | 1.6  | 1.3  | 1.2  | 0.8  |
| miR-277-3p  | 2.4  | 2.9 | 4.5  | 4.5  | 4.6  | 3.6  | 2.4  | 3.0  | 4.2  | 2.3  | 4.1  | 3.6  |
| miR-34-5p   | 2.2  | 6.8 | 3.0  | 7.9  | 4.2  | 6.1  | 1.9  | 6.7 | 4.5  | 8.6  | 5.1  | 11.2 |
| miR-184-3p  | 2.1  | 2.2 | 3.1  | 3.0  | 2.7  | 2.8  | 2.7  | 2.3  | 2.9  | 3.9  | 3.3  | 3.0  |
| miR-263a-5p | 1.9  | 2.0 | 1.5  | 1.8  | 1.5  | 2.5  | 1.9  | 1.9  | 1.1  | 1.5  | 1.3  | 1.5  |
| miR-9a-5p   | 1.9  | 1.9 | 0.6  | 0.5  | 0.5  | 0.8  | 1.9  | 2.1  | 0.4  | 0.6  | 0.4  | 0.5  |
| miR-10-3p   | 1.8  | 1.9 | 1.8  | 1.8  | 2.0  | 2.2  | 2.2  | 2.9  | 1.8  | 2.5  | 2.2  | 2.6  |
| miR-7-5p    | 1.7  | 1.4 | 0.8  | 0.7  | 1.0  | 1.0  | 1.6  | 1.3  | 0.6  | 0.6  | 0.7  | 0.7  |
| miR-14-3p   | 1.1  | 5.2 | 7.7  | 13.2 | 4.8  | 5.8  | 0.5  | 6.7 | 10.9 | 10.4 | 7.3  | 10.1 |
| miR-375-3p  | 1.0  | 0.9 | 0.6  | 0.5  | 0.6  | 0.5  | 1.1  | 1.1  | 0.5  | 0.6  | 0.6  | 0.5  |
| miR-278-3p  | 0.9  | 1.5 | 1.4  | 1.4  | 1.5  | 1.4  | 0.8  | 1.6  | 1.3  | 2.1  | 1.3  | 1.4  |
| miR-31a-5p  | 0.8  | 0.7 | 0.4  | 0.4  | 0.4  | 0.5  | 1.0  | 0.7  | 0.3  | 0.4  | 0.4  | 0.4  |
| let-7-5p    | 0.7  | 0.8 | 0.2  | 0.2  | 0.2  | 0.2  | 0.7  | 0.9  | 0.2  | 0.2  | 0.2  | 0.2  |
| miR-11-3p   | 0.7  | 1.0 | 0.6  | 0.9  | 0.7  | 1.0  | 0.6  | 1.1  | 0.5  | 0.8  | 0.5  | 0.9  |
| Total of top 20 miRNAs | 93.6 | 91.1 | 92.6 | 90.0 | 89.7 | 86.9 | 93.1 | 90.3 | 91.0 | 90.0 | 89.3 | 86.5 |
| Other miRNAs | 6.4 | 8.9 | 7.4 | 10.0 | 10.3 | 13.1 | 6.9 | 9.7 | 9.0 | 10.0 | 10.7 | 13.5 |
Table 2. 20 miRNAs make up the majority of miRNAs detected in total small RNA, Ago1, and Ago2 RISC.

|       | Wildtype |           | dFOXO-null |          |       |           |       |       |     |
|-------|----------|-----------|------------|----------|-------|-----------|-------|-------|-----|
|       | Total    | Ago1 RISC | Ago2 RISC  | Total    | Ago1  | Ago2 RISC | Total | Ago1  | Ago2 |
|       | abundance| Young Old | Young Old  | abundance| Young Old | Young Old |       |       |     |
| miR-276a-3p | 18.7  | 17.1     | 16.1  16.4 | 15.7  16.2 | 19.0  | 22.1     | 15.8  | 18.2  | 16.7 | 16.2 |
| miR-1-3p   | 14.8   | 7.9      | 19.9  14.4 | 12.1  9.6  | 15.3  | 3.1      | 15.2  | 8.5   | 11.5 | 8.8  |
| miR-276b-3p| 12.1   | 10.4     | 12.0  12.1 | 11.5  11.8 | 12.4  | 14.8     | 11.2  | 12.8  | 11.4 | 11.7 |
| bantam-3p  | 10.7   | 14.5     | 7.3   5.4  | 6.4   5.0  | 10.1  | 10.2     | 6.3   | 6.3   | 7.6  | 5.1  |
| miR-8-3p   | 5.1    | 3.3      | 3.1   3.5  | 5.1   6.2  | 4.4   | 4.3      | 5.2   | 5.2   | 6.5  | 6.5  |
| miR-956-3p | 2.8    | 5.6      | 4.0   5.8  | 6.5   5.8  | 4.9   | 11.9     | 5.5   | 5.9   | 6.0  | 7.1  |
| miR-318-3p | 2.4    | 0.8      | 2.8   0.8  | 1.6   0.4  | 1.6   | 0.8      | 1.5   | 1.0   | 0.9  | 0.5  |
| miR-10-3p  | 2.3    | 2.6      | 1.6   2.1  | 2.6   3.3  | 2.0   | 1.3      | 1.6   | 2.3   | 2.2  | 3.3  |
| miR-999-3p | 2.3    | 1.3      | 1.2   1.1  | 1.0   1.0  | 1.7   | 0.7      | 1.0   | 0.6   | 1.2  | 0.8  |
| miR-184-3p | 2.3    | 2.6      | 2.9   3.2  | 2.3   2.5  | 3.3   | 1.2      | 4.8   | 6.3   | 3.9  | 3.6  |
| miR-277-3p | 2.2    | 1.4      | 3.6   3.1  | 2.8   2.8  | 1.5   | 2.9      | 3.0   | 1.7   | 2.5  | 1.8  |
| miR-9b-5p  | 1.9    | 1.0      | 1.1   1.0  | 0.6   0.6  | 1.9   | 1.4      | 1.2   | 0.8   | 1.0  | 0.7  |
| miR-7-5p   | 1.8    | 1.6      | 0.7   0.8  | 0.6   0.7  | 1.4   | 0.7      | 0.6   | 0.6   | 0.6  | 0.6  |
| miR-9a-5p  | 1.7    | 1.4      | 0.4   0.5  | 0.3   0.4  | 1.5   | 1.0      | 0.3   | 0.2   | 0.4  | 0.3  |
| miR-34-5p  | 1.6    | 6.1      | 3.4   5.7  | 3.2   5.3  | 0.9   | 2.8      | 3.5   | 6.0   | 3.4  | 5.1  |
| miR-994-5p | 1.6    | 0.5      | 1.0   0.2  | 3.8   0.6  | 1.7   | 0.8      | 0.8   | 0.4   | 2.2  | 1.2  |
| miR-263a-5p| 1.2    | 1.7      | 0.9   1.4  | 1.9   2.5  | 1.1   | 0.6      | 0.9   | 1.3   | 1.2  | 1.8  |
| miR-14-3p  | 1.1    | 2.9      | 4.7   7.3  | 2.7   3.2  | 0.3   | 2.4      | 6.0   | 5.7   | 2.4  | 2.2  |
| miR-278-3p | 0.9    | 1.7      | 1.3   1.4  | 1.1   1.0  | 1.4   | 4.0      | 1.5   | 2.8   | 1.4  | 1.6  |
| miR-9c-5p  | 0.9    | 0.6      | 0.3   0.3  | 0.5   0.5  | 1.0   | 1.2      | 0.3   | 0.3   | 0.5  | 0.4  |

**Total of top 20 miRNAs**
88.1  85.0  88.0  86.3  82.3  79.3  87.2  86.4  85.3  86.0  82.0  79.2  

**Other miRNAs**
11.9  15.0  12.0  13.7  17.7  20.8  12.8  13.6  14.7  14.0  18.0  20.8