**Table S3. Functional analysis of gene lists using GO terms.** A list of orthologous genes of honeybee and Drosophila was examined for significant associations with specific GO functional categories based on the annotation of Drosophila genes. Among the 10 top-ranked GO categories, 6 are directly related to development process. As a control, none of the irrelevant GO categories is related to development process.

| GO functional categories | Total numbers of Drosophila genes in the GO terms (total number = 14217) | Numbers of examined genes in the GO terms (total number = 96) | P-value |
|---|---|---|---|
| The top 10 relevant GO process | | | |
| system development (GO:0048731) | 2296 | 49 | 9.92E-12 |
| biological regulation (GO:0065007) | 3990 | 64 | 1.50E-11 |
| single-multicellular organism process (GO:0044707) | 3199 | 57 | 2.73E-11 |
| multicellular organismal process (GO:0032501) | 4088 | 64 | 5.24E-11 |
| anatomical structure development (GO:0048856) | 3197 | 56 | 1.32E-10 |
| single-organism developmental process (GO:0044767) | 3310 | 56 | 6.18E-10 |
| multicellular organism development (GO:0007275) | 2880 | 52 | 7.76E-10 |
| developmental process (GO:0032502) | 3351 | 56 | 1.06E-09 |
| animal organ development (GO:0048513) | 1321 | 34 | 8.13E-09 |
| regulation of biological process (GO:0050789) | 3615 | 56 | 2.86E-08 |
| | | | |
| The top 10 irrelevant GO process | | | |
| biological_process (GO:0008150) | 11306 | 88 | 1.00E+00 |
| localization (GO:0051179) | 2134 | 27 | 1.00E+00 |
| metabolic process (GO:0008152) | 4663 | 25 | 1.00E+00 |
| transport (GO:0006810) | 1695 | 23 | 1.00E+00 |
| organelle organization (GO:0006996) | 1729 | 23 | 1.00E+00 |
| establishment of localization (GO:0051234) | 1764 | 23 | 1.00E+00 |
| nitrogen compound metabolic process | 3624 | 23 | 1.00E+00 |

| | | | |
|---|---|---|---|
| (GO:0006807) | | | |
| primary metabolic process (GO:0044238) | 3849 | 23 | 1.00E+00 |
| organic substance metabolic process (GO:0071704) | 4182 | 23 | 1.00E+00 |
| multi-organism process (GO:0051704) | 1486 | 22 | 1.00E+00 |