

Description of Additional Supplementary Files

Supplementary Data 1. Quality control for single-nuclei data processing.

Supplementary Data 2. Literature reference for marker genes.

Supplementary Data 3. Specifically overexpressed genes for each type.

Supplementary Data 4. Gene Ontology enrichment analysis in different cell types.

Supplementary Data 5. Pairwise transcriptional similarity (AUROC score) of optic lobe cell clusters (OLCs) between *A. mellifera* and *D. melanogaster* (Kurmangaliyev et al.).

Supplementary Data 6. Specifically overexpressed genes for subtypes of cells. Supplementary Data 7. Differentially expressed genes between nurse and forager bees in different cell types and subtypes.

Supplementary Data 8. Predicted regulons by SCENIC analysis.

Supplementary Data 9. Regulons in different cell types.

Supplementary Data 10. The co-regulatory network between regulons stripe, Hr38 and CrebB.

Supplementary Data 11. List of FISH RNA probe