## **Description of Additional Supplementary Files**

## **Supplementary Data 1**

**Description:** DEGs identified for each layer based on raw data and enhanced data of slice 151676.

## **Supplementary Data 2**

**Description:** DEGs identified for each layer based on raw data and enhanced data of slice 151507.

## **Supplementary Data 3**

**Description:** Statistical analysis of layer-enriched genes based on enhanced gene expressions.