

## **Supplementary data**

**Table S1. Cell markers**

**Table S2. Trajectory analysis of non-classical and classical monocytes**

**Table S3. WGCNA of non-classical and classical monocytes**

**Table S4. KEGG pathways of M4 module of monocytes**

**Table S5. KEGG pathways of M1 module of monocytes**

**Table S6. Trajectory analysis of N1- and N2-type neutrophils**

**Table S7. WGCNA of N1- and N2-type neutrophils**

**Table S8. KEGG pathways of M4 module of N1- and N2-type neutrophils**

**Table S9. KEGG pathways of M5 module of N1- and N2-type neutrophils**

**Table S10. KEGG pathways of M7 module of N1- and N2-type neutrophils**

**Table S11. KEGG pathways of M8 module of N1- and N2-type neutrophils**

**Table S12. KEGG pathways of M10 module of N1- and N2-type neutrophil**

**Table S13. Canonical pathways of lymphatic ECs assessed by IPA**

**Table S14. WGCNA of ECs**

**Table S15. KEGG pathways of M1 module of lymphatic ECs**

**Table S16. KEGG pathways of M2 module of lymphatic ECs**

**Table S17. IPA analysis of alv fibroblasts**

**Table S18. IPA analysis of adv fibroblasts**

**Table S19. WGCNA of fibroblasts**

**Table S20. KEGG pathways of M2 module of fibroblasts**

**Table S21. KEGG pathways of M3 module of fibroblasts**

**Table S22. KEGG pathways of M4 module of fibroblasts**

**Table S23. KEGG pathways of M5 module of fibroblasts**

**Table S24. Cell-cell interactions only in the lungs of MMTV-PyVT mice**

**Table S25. Elevated cell-cell interactions in the lungs of MMTV-PyVT mice**

**Table S26. Reduced cell-cell interactions in the lungs of MMTV-PyVT mice**

**Table S27. Loss of cell-cell interactions in the lungs of MMTV-PyVT mice**

**Table S28. The primers used in this study**

**Table S29. The antibodies used in study**