

# **Adipose-derived stem cells differentiate to smooth muscle cells via *Clec11a*<sup>+</sup> subpopulation**

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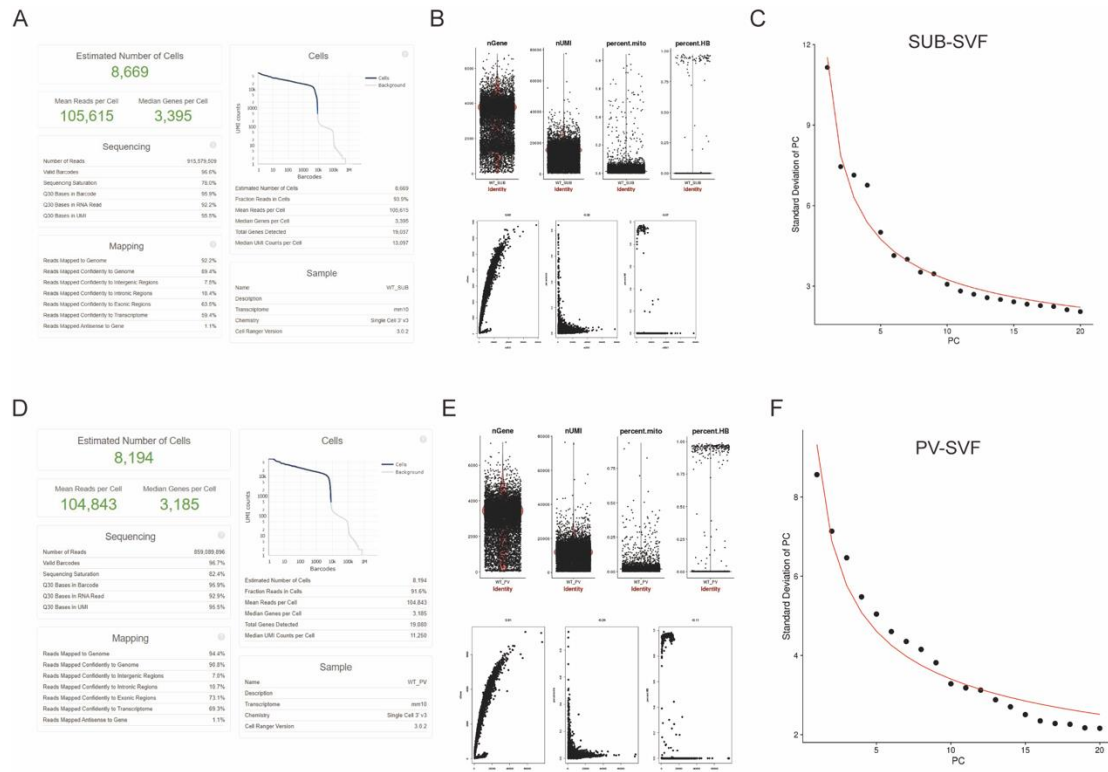
**Short title:** *Clec11a*<sup>+</sup> subpopulation contributes to SMC differentiation

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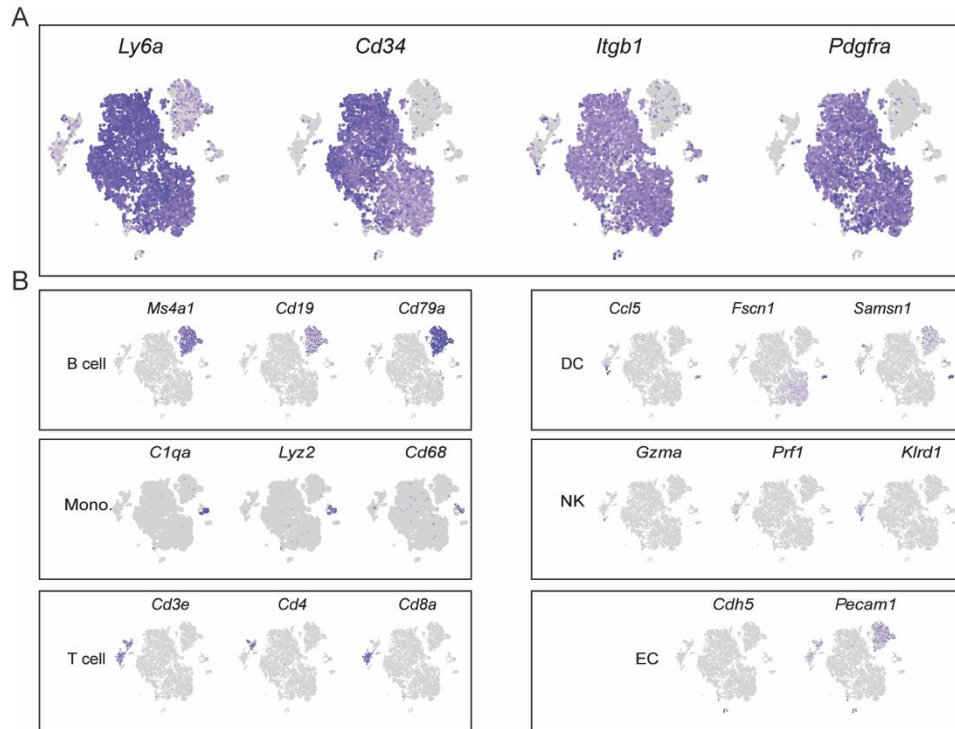
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## **SUPPLEMENTAL MATERIA**



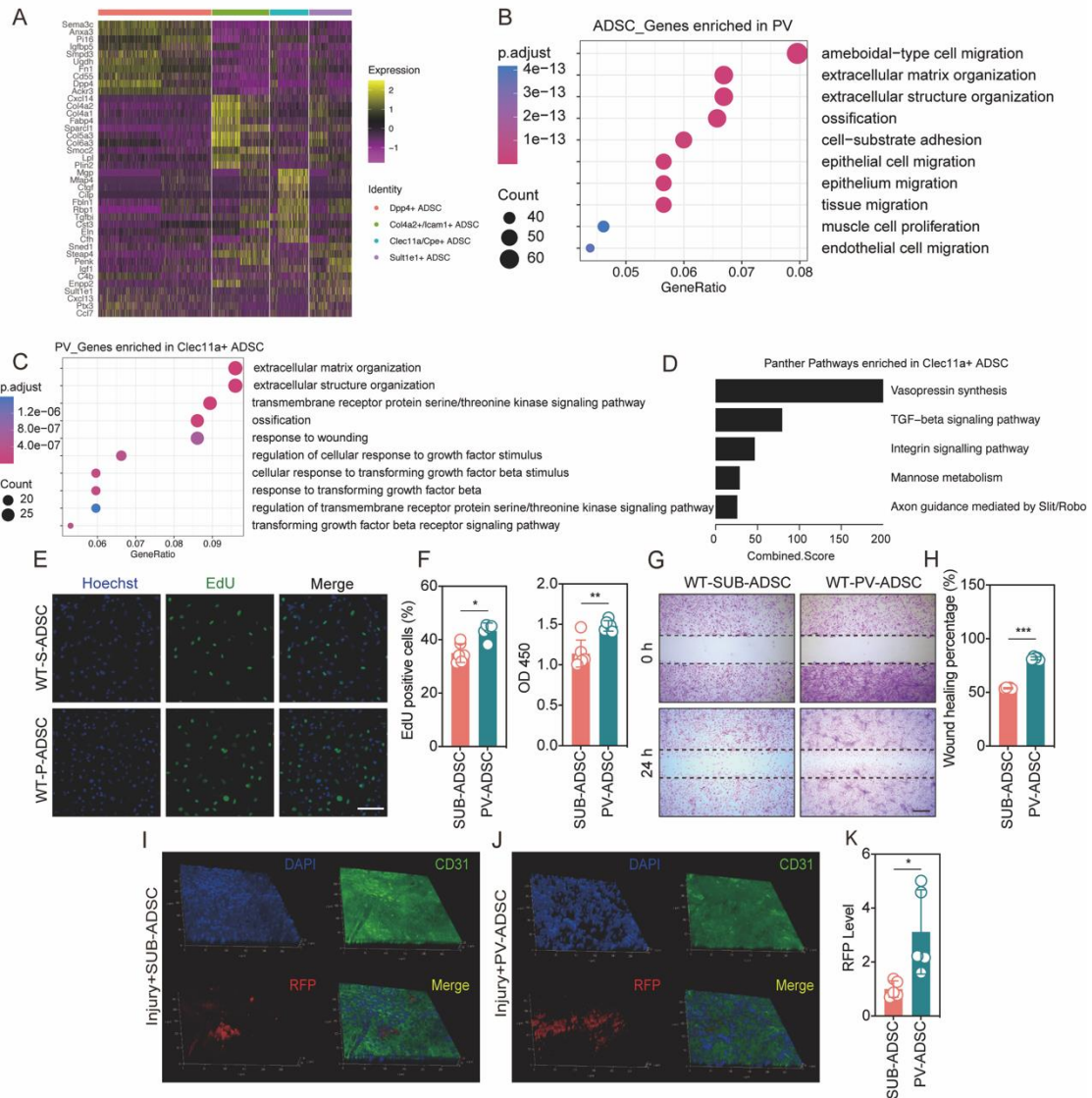
**Fig.S1, Quality control of raw data of scRNA sequencing samples.**

**A and D**, Overall information of scRNA sequencing for SUB-SVF and PV-SVF. **B and E**, Violin and gene plot of nGene, nUMI, percent. Mito and percent. HB for four groups of SVF. **C and F**, PC Elbow Plot for SUB-SVF and PV-SVF.



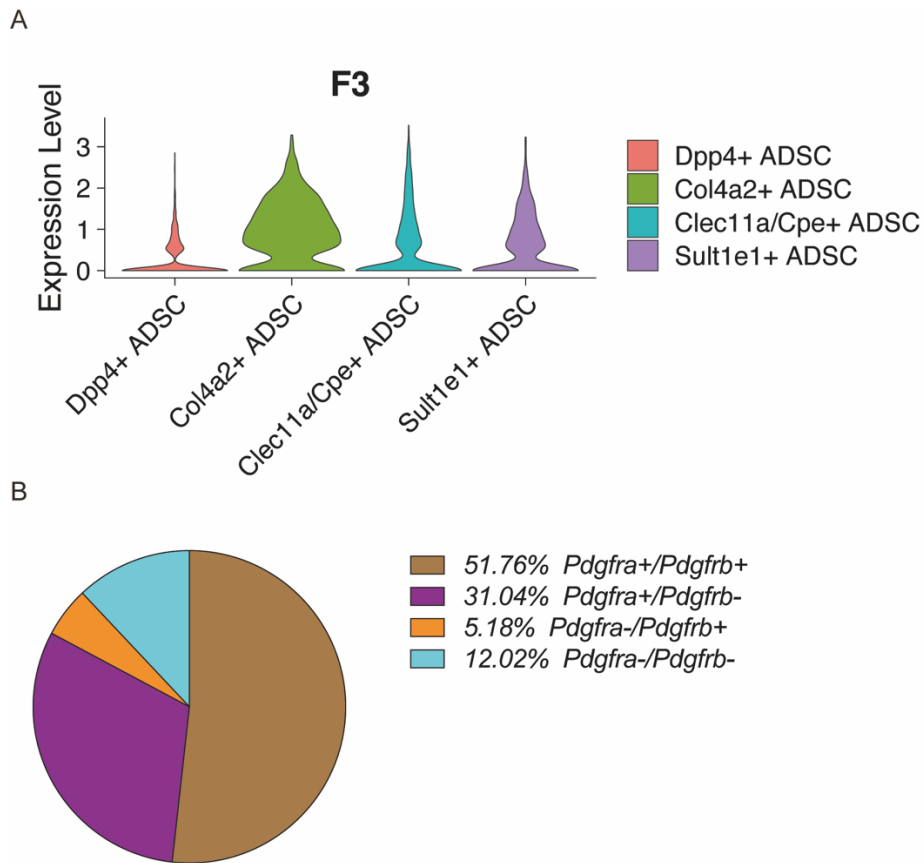
**Fig.S2, Gene expression of top DEGs in SUB-ADSCs.**

**A**, Individual t-SNE visualization for MSC's markers. **B**, Individual t-SNE visualization for cell markers of B cells, T cells, monocytes, dendritic cells, natural killer cell and endothelial cells.



**Fig. S3, comparison of SUB- and PV-ADSCs.**

**A**, Aligned Heatmap representing the top 10 DEGs for each ADSCs subpopulation. **B**, GO analysis for most upregulated in PV-ADSCs. **C**, GO analysis for the most upregulated genes in *Clec11a*<sup>+</sup> subpopulation. **D**, Panther pathways for top50 upregulated genes in *Clec11a*<sup>+</sup> subpopulation. **E**, EdU tests for SUB-ADSCs and PV-ADSCs. Scale bar = 100  $\mu$ m. **F**, CCK-8 assays for SUB-ADSCs and PV-ADSCs. **G and H**, Scratch wound healing assays for SUB-ADSCs and PV-ADSCs. Scale bar = 500  $\mu$ m. **I to K**, *In vivo* en face migration assays for SUB-ADSCs (**I**) and PV-ADSCs (**J**). Quantification was displayed as **K**.



**Fig. S4, Distribution of *Cd142*+, *Pdgfra*+ and *Pdgfrb*+ subpopulations in PV-ADSCs.**

A, Violin plot of *Cd142* in PV-ADSCs. B, Cell ratios of *Pdgfra*+/*Pdgfrb*+, *Pdgfra*+/*Pdgfrb*-, *Pdgfra*-/*Pdgfrb*+ and *Pdgfra*-/*Pdgfrb*- in *Clec11a*+ subpopulations of PV-ADSCs