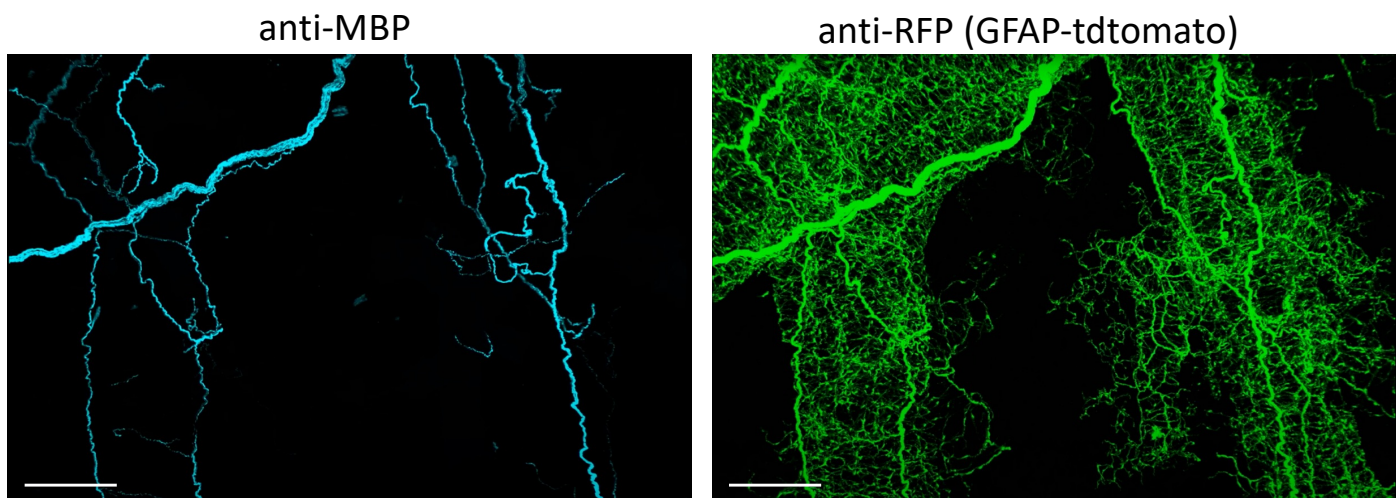


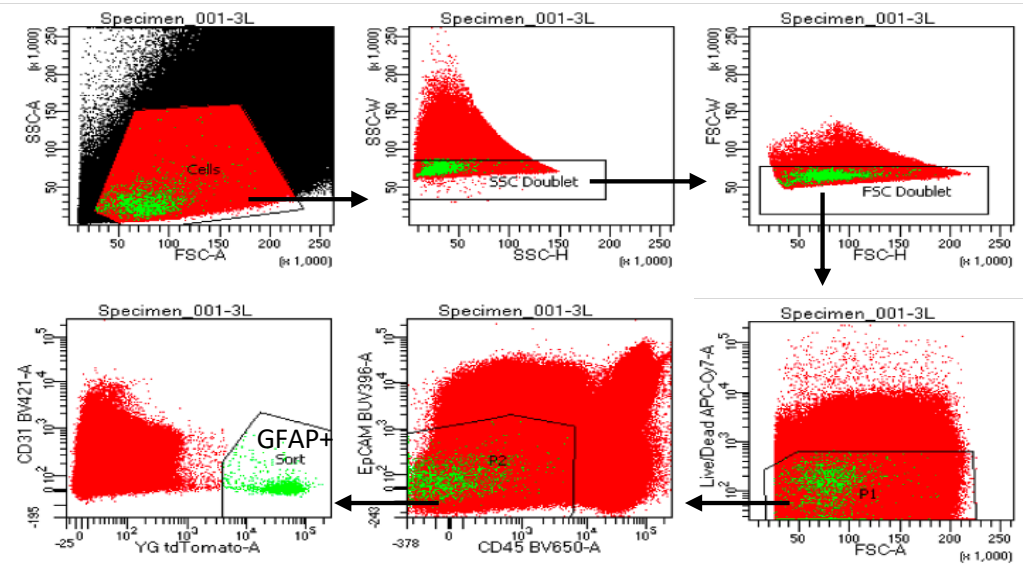
Supplementary Figure 1



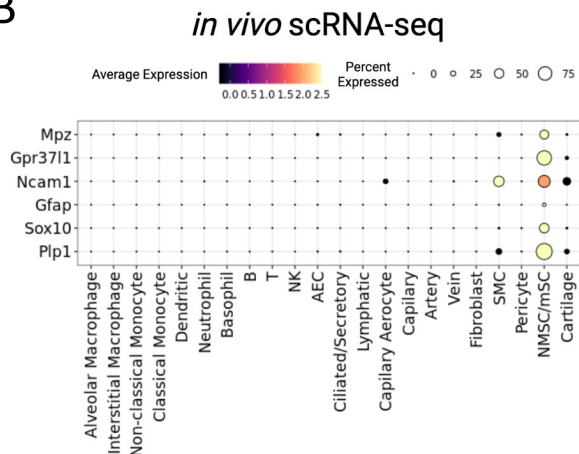
Supplementary Figure 1. Imaging of cleared whole lung lobe from GFAP-tdTomato mice, co-stained with anti-Red Fluorescence Protein (RFP) (green) and anti-Myelin Basic Protein (MBP) (cyan), scale bars at 300 μ m.

Supplementary Figure 2

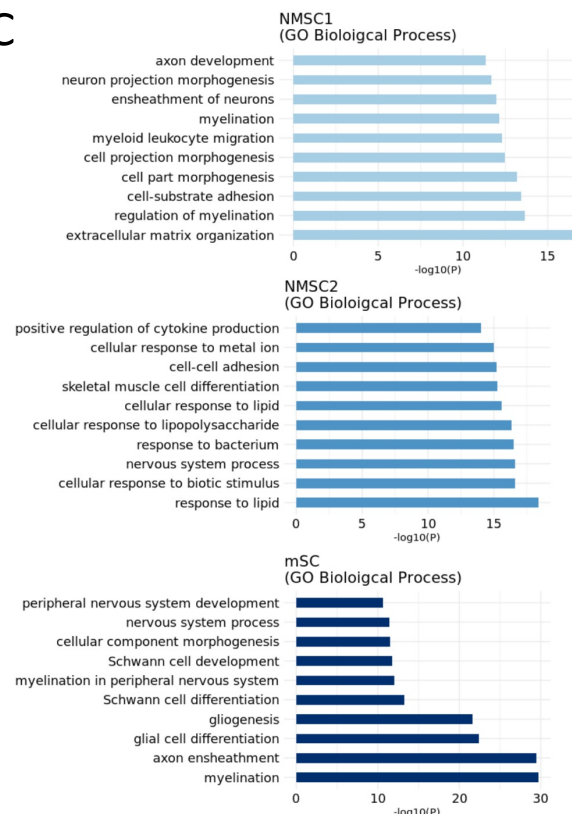
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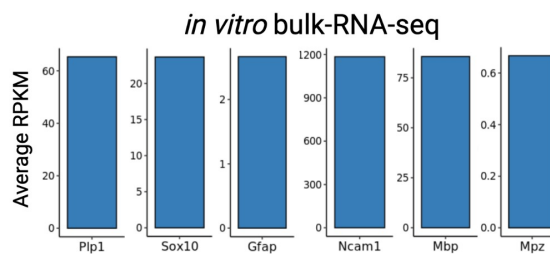
B



C

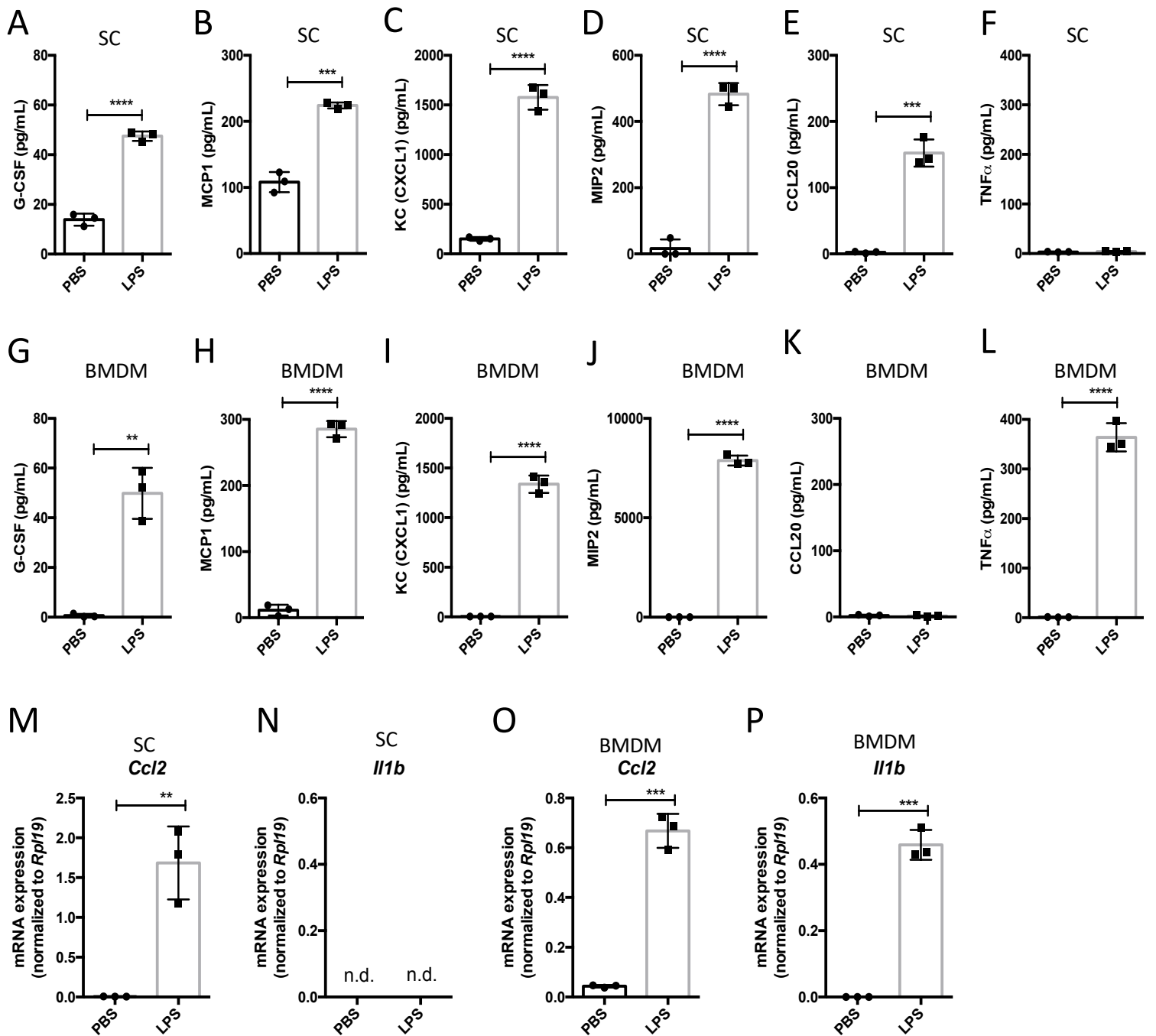


D



Supplementary Figure 2. Sorting scheme for NMSCs and mSCs response to LPS. (A) GFAP-tdTomato lung single cell dissociations were used for sorting NMSC by gating for EPCAM⁺CD31⁻CD45⁻tdTomato^{HI}. The sorted cells were then subjected to single cell analysis. (B) Fraction of cells (dot size) in the integrated lung dataset expressing NMSC/mSC specific markers and their scaled average expression level in expressing cells (dot color). (C) Gene ontology (Biological processes) analysis of top genes enriched by lung glia subtypes, as indicated. (D) Average RPKM expression of known NMSC/mSC markers in RNA-seq of in vitro data; n=3.

Supplementary Figure 3



Supplementary Figure 3. In vitro LPS stimulated Schwann Cell and Bone Marrow Derived Macrophages.

(A-E) Luminex of cultured media from Day 8 cultured lung Schwann Cells (SC) stimulated with 20 ng/mL

LPS or PBS for 4 hours (protein analytes measured: G-CSF, MCP-1, KC (CXCL1), MIP2, CCL20, TNF α) (F-J)

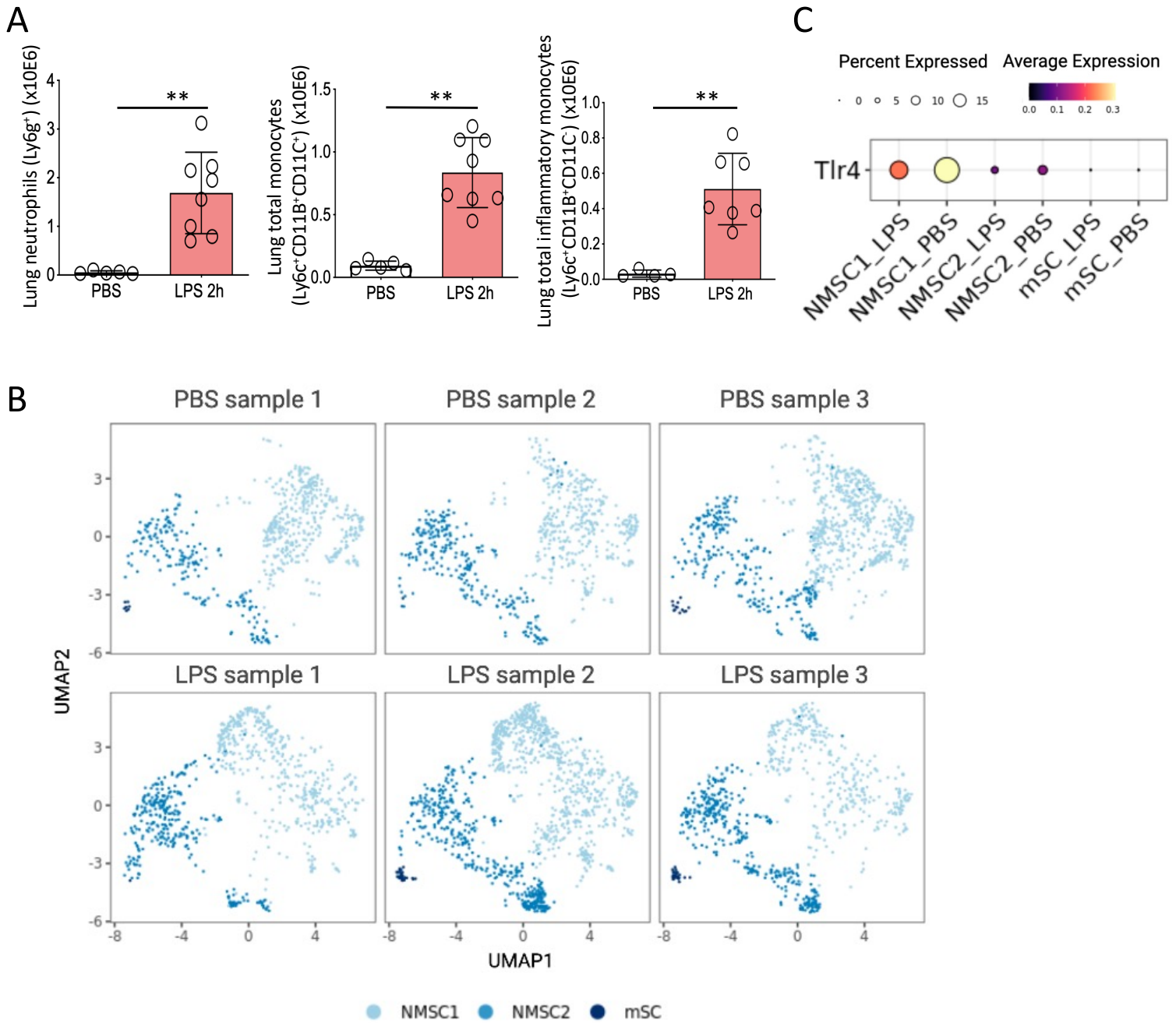
Luminex of cultured media from Day 8 cultured lung Bone marrow derived-macrophages (BMDM)

stimulated with 20 ng/mL LPS or PBS for 4 hours (protein analytes measured: G-CSF, MCP-1, KC (CXCL1),

MIP2, CCL20, TNF α). Data represents mean \pm SD; n = 3 per group, *p < 0.05, **p < 0.005, ***p < 0.0005,

****p < 0.00005, unpaired student t-test.

Supplementary Figure 4



Supplementary Figure 4. Pulmonary NMSCs response to LPS in vivo. (A) Total neutrophil, total monocytes, and inflammatory monocyte cell counts from lungs of PBS and LPS challenged GFAP-tdtomato mice; n = 4, n = 8 animals per group. Comparison for each pair was performed using two-tail t-test. Data are expressed as the mean SEM ** p < 0.005. (B) UMAP plots of Seurat-integrated LPS stimulated airway Schwann Cells separated by individual samples. (C) Fraction of cells (dot size) in the integrated LPS stimulated airway non-myelinating Schwann Cells (NMSC1 and 2) and myelinating Schwann Cells (mSC) dataset expressing Tlr4 and their scaled average expression level in expressing cells (dot color).

Movie Legend

3-Dimensional Z-stack movie of lung SCs in alveolar space. (A) Z-stack movie of co-localization of cleared whole lung lobe from GFAP-tdTomato mice, stained for anti-RFP (GFAP-tdTomato) anti-TUJ1 (neuronal marker) (red), and anti-ZO-1 (alveoli tight junctions) (cyan).