# Article information:

Reference-based analysis of lung single-cell sequencing reveals a transitional profibrotic macrophage - PubMed  
<https://pubmed.ncbi.nlm.nih.gov/30643263/>

# Article summary:

1. Researchers used single-cell RNA sequencing to characterize the heterogeneity of macrophages in bleomycin-induced lung fibrosis in mice.

2. A novel computational framework for the annotation of scRNA-seq by reference to bulk transcriptomes (SingleR) enabled the subclustering of macrophages and revealed a disease-associated subgroup with a transitional gene expression profile intermediate between monocyte-derived and alveolar macrophages.

3. These CX3CR1+SiglecF+ transitional macrophages localized to the fibrotic niche and had a profibrotic effect in vivo, as evidenced by upregulation of human orthologs of genes expressed by these cells in samples from patients with idiopathic pulmonary fibrosis.

# Article rating:

May be slightly imbalanced: The article presents the information in a generally reliable way, but there are minor points of consideration that could be explored further or claims that are not fully backed by appropriate evidence. Some perspectives may also be omitted, and you are encouraged to use the research topics section to explore the topic further.

# Article analysis:

The article is generally reliable and trustworthy, as it is based on rigorous scientific research that was conducted using established methods such as single-cell RNA sequencing and differential expression analysis. The authors also provide evidence for their claims, such as upregulation of human orthologs of genes expressed by the transitional macrophages in samples from patients with idiopathic pulmonary fibrosis. However, there are some potential biases that should be noted. For example, the study only focused on mice models, so it may not be applicable to humans or other species. Additionally, the study did not explore any counterarguments or alternative explanations for its findings, which could lead to an incomplete understanding of the results. Finally, there is no mention of possible risks associated with this research or its implications for clinical practice.

# Topics for further research:

* Idiopathic Pulmonary Fibrosis Risk Factors
* Transitional Macrophage Function
* Single-Cell RNA Sequencing
* Differential Expression Analysis
* Human Orthologs of Genes
* Clinical Implications of Transitional Macrophages

# Report location:

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