

Detecting disease relevant cells in the presence of incorrect labels in case-control single-cell transcriptomic studies

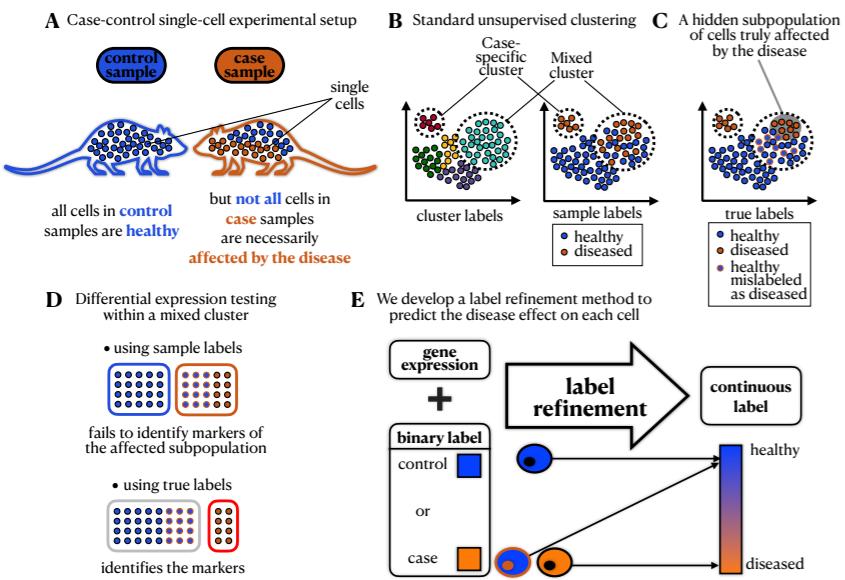
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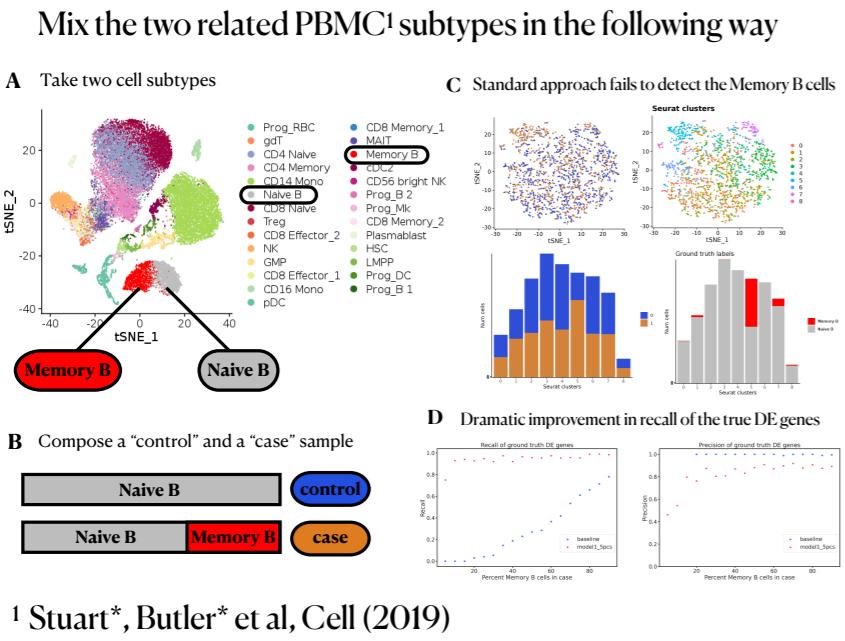
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1. Not all cells in case samples are different from cells in control samples and this can obscure subtle disease-associated signals

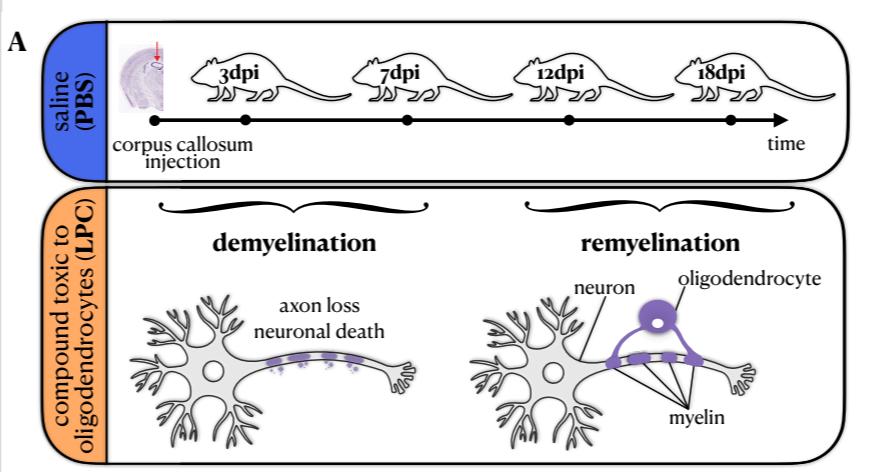


2. Consider wanting to 'discover' Memory B cells in a background of Naive B cells



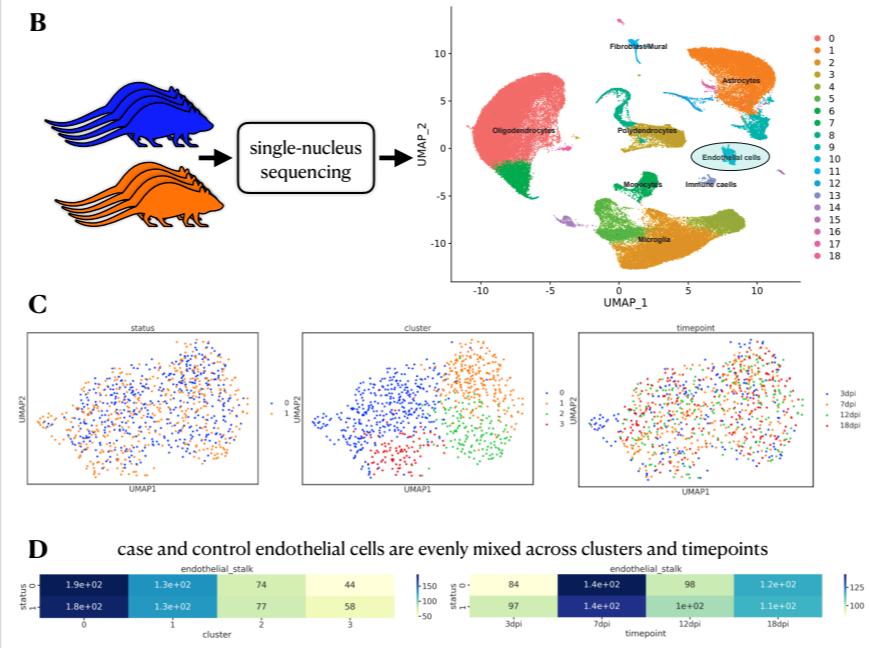
¹ Stuart*, Butler* et al, Cell (2019)

3. Looking for transcriptional changes across de- and re-myelination in a time-resolved case-control experiment

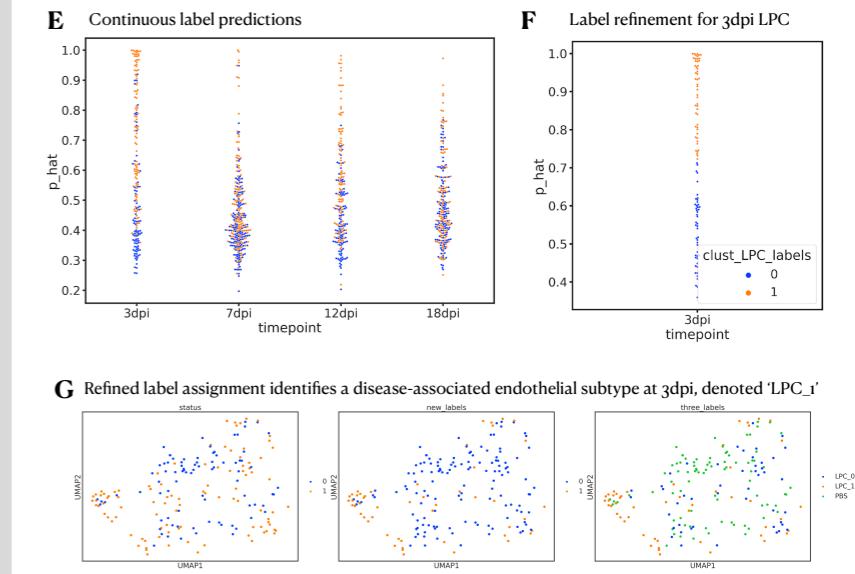


4. Standard analysis of the Endothelial cells does not reveal disease-specific subsets

Unlike other cell types that show strong and distinguishable disease-specific subpopulations, the endothelial cells are mixed



5. We reveal changes to the blood-brain barrier as an early response to inflammation



6. Increased angiogenesis and permeability marked by specific genes and distinct interactions with surrounding glial cells

