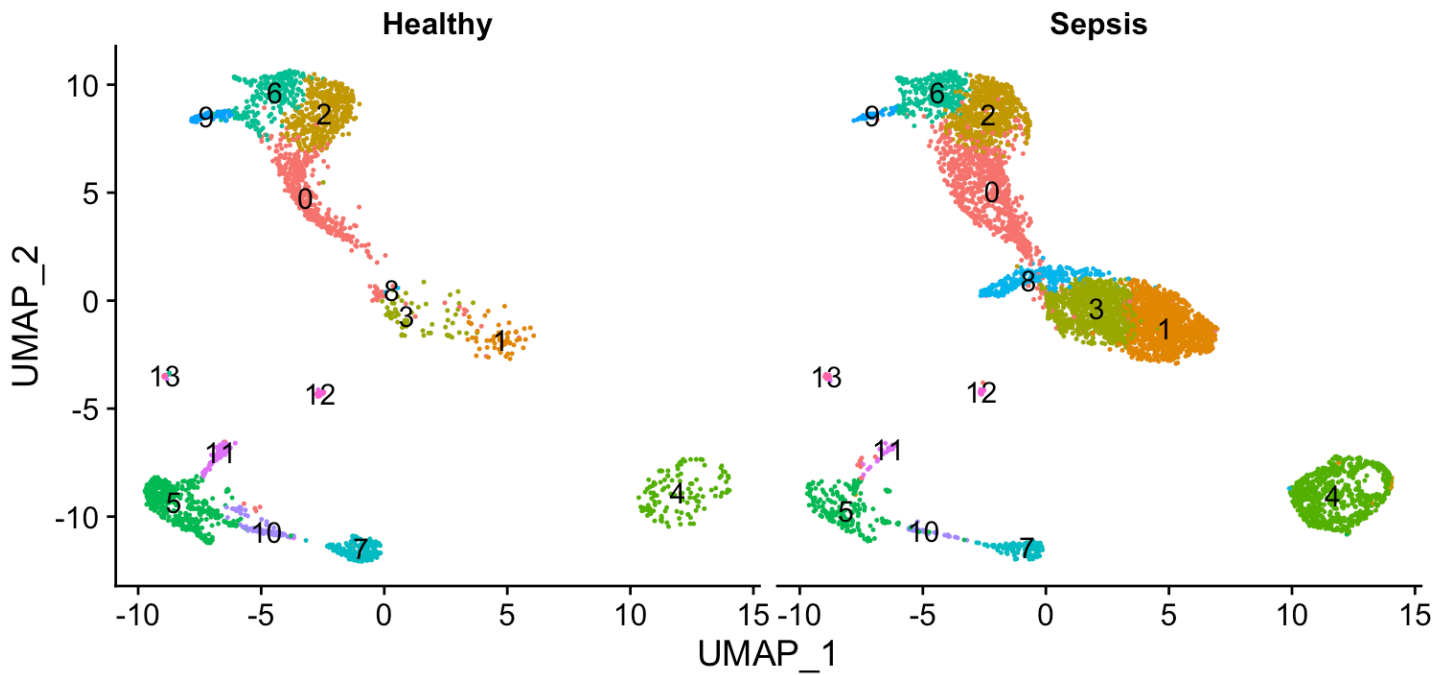
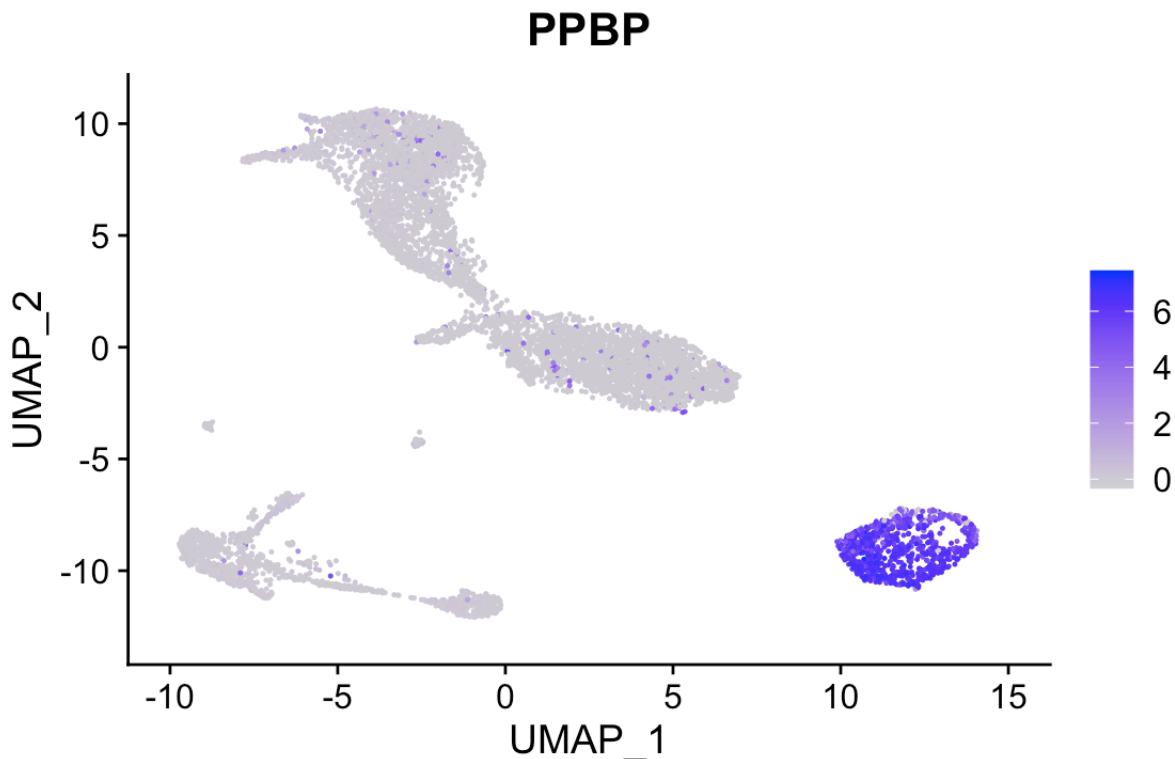


# Manual Cluster Annotation



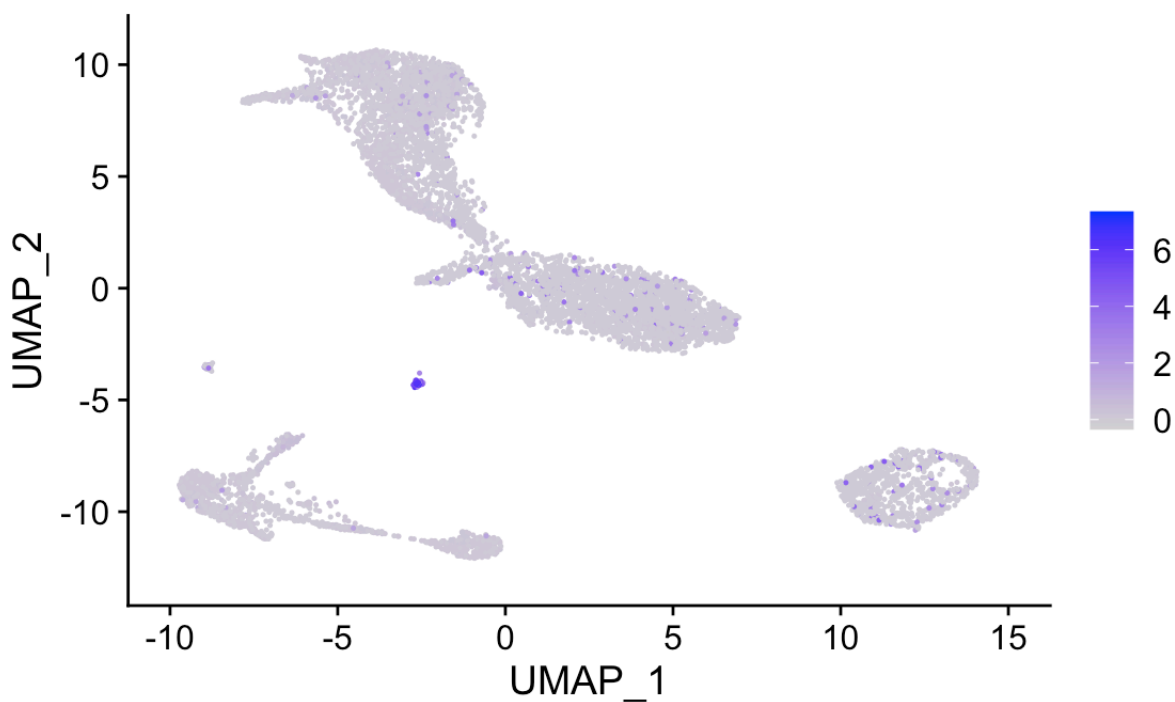
Below are series of marker genes that we looked at to help manually identify/label clusters:

Cluster 4 is Platelet based on PPBP expression:

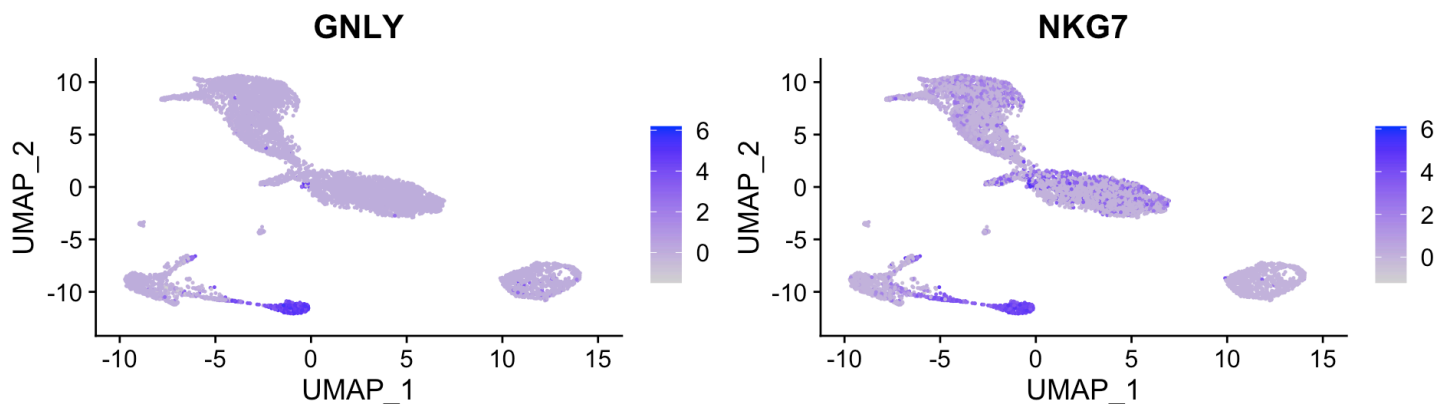


Cluster 12 is pDC based on IGJ expression:

## IGJ

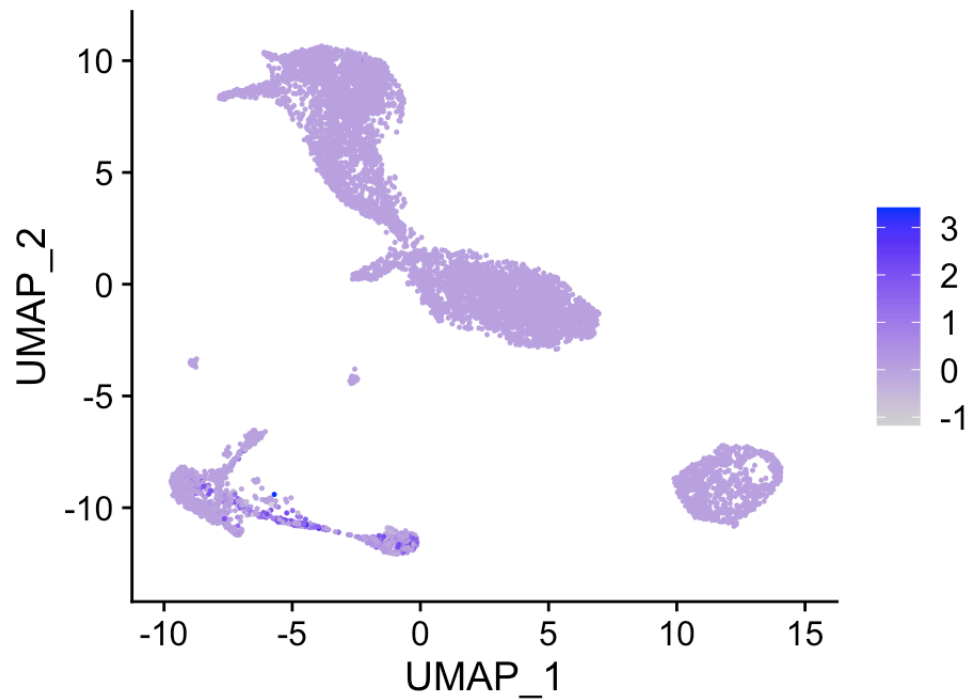


Cluster 7 is activated T based on GNLY and NKG7 expression:



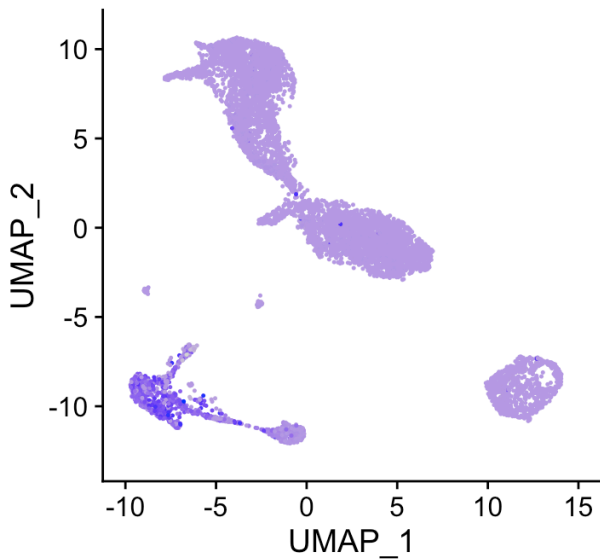
Cluster 10 is CD8+ T-cell based on CD8A expression:

## CD8A

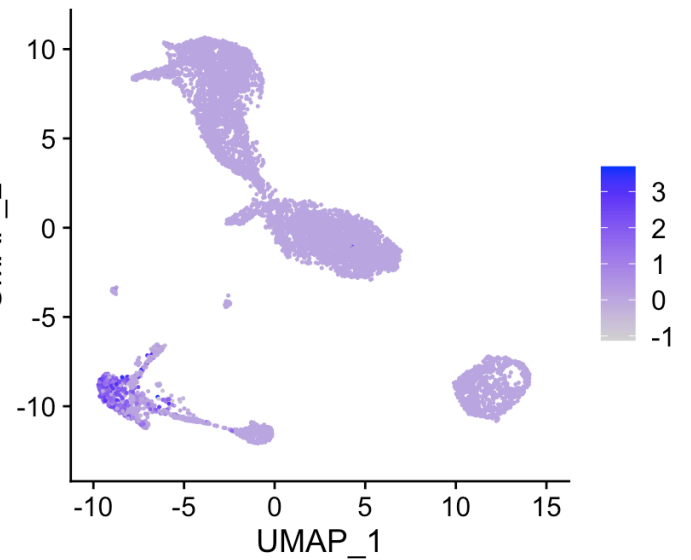


Cluster 5 is CD4+ T-cell based on IL7R expression:

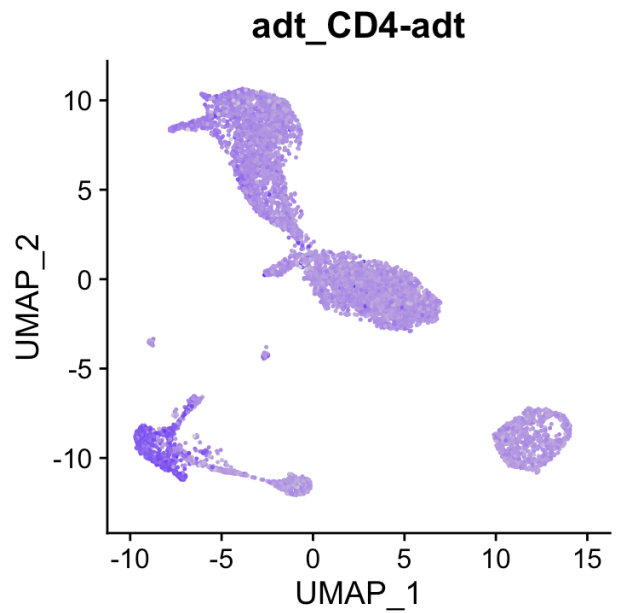
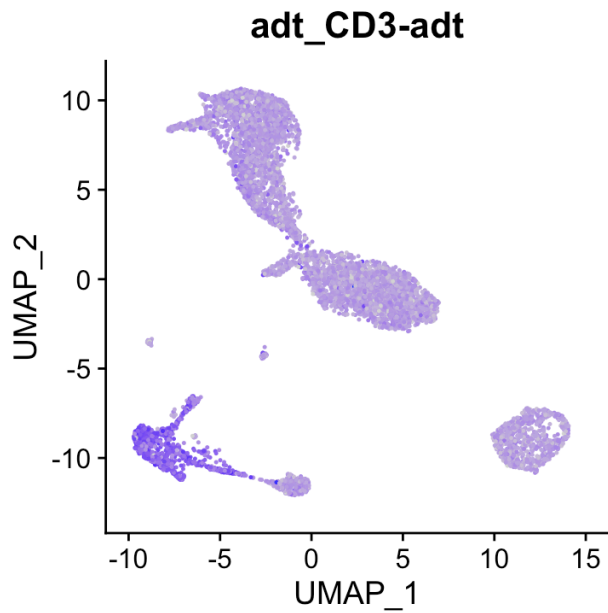
## IL7R



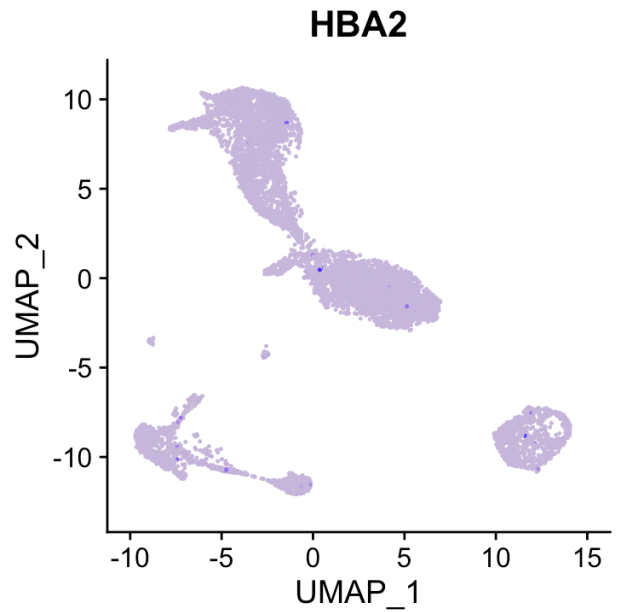
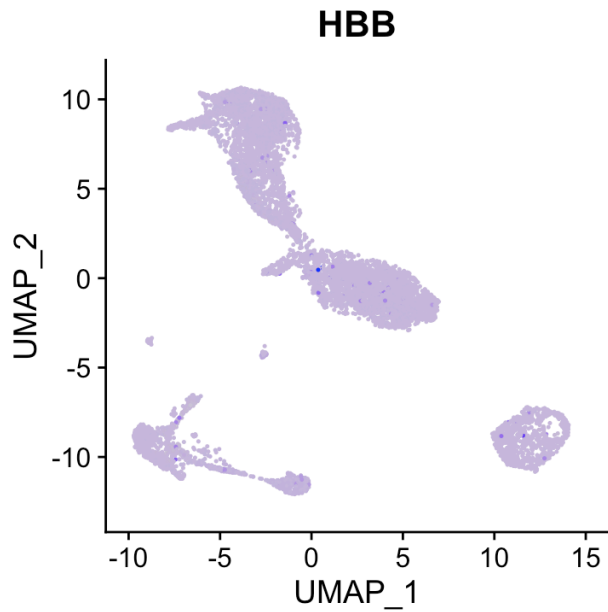
## CCR7



#### Cluster 11 is also CD4+ T-cell. Here using the ADT tags to refine, specifically CD3 and CD4:



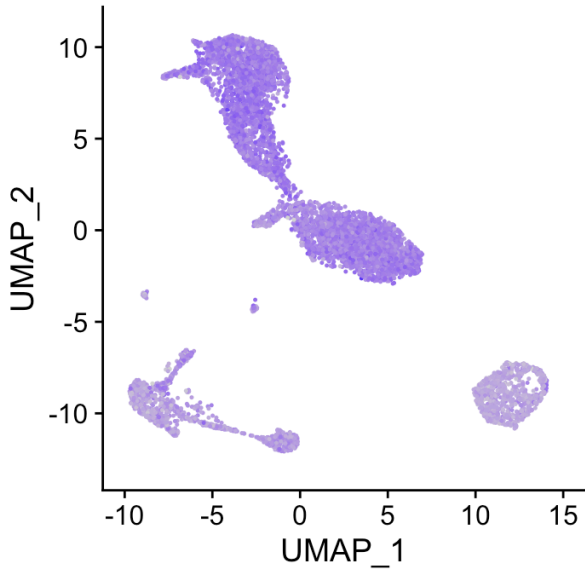
No erythrocytes based on HBB and HBA2 expression.



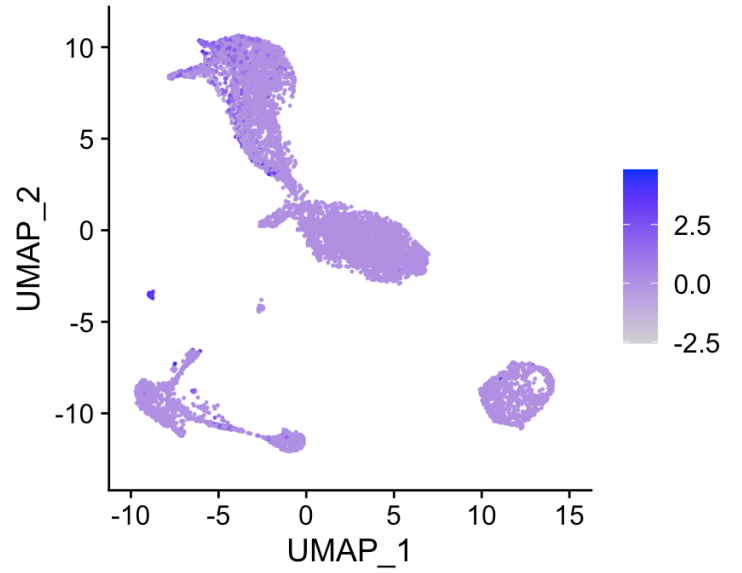
M-MDSC (CD11b+ HLA-DR- CD14+ CD15-), using the gene expression and surface proteins for granularity here:

Maybe clusters 0 and 2 are M-MDSC.

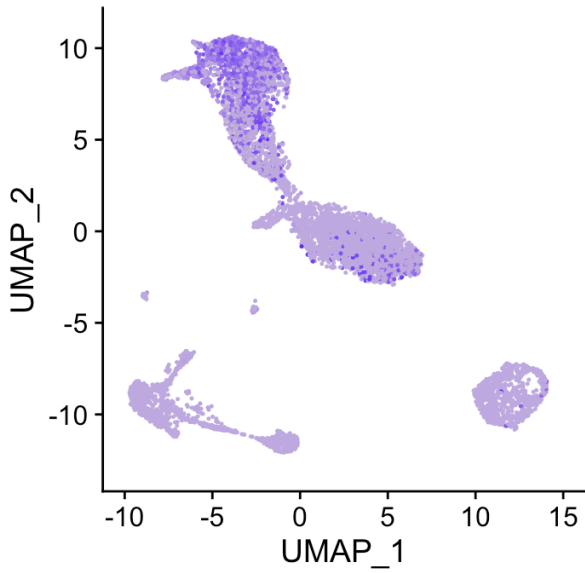
**adt\_CD11B-adt**



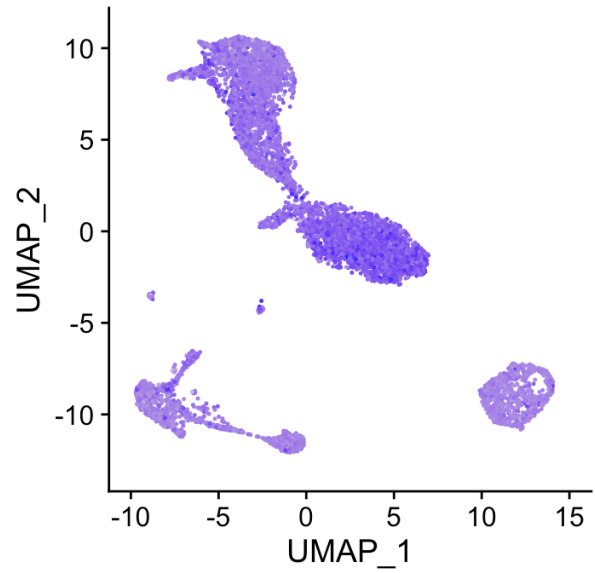
**HLA-DRA**

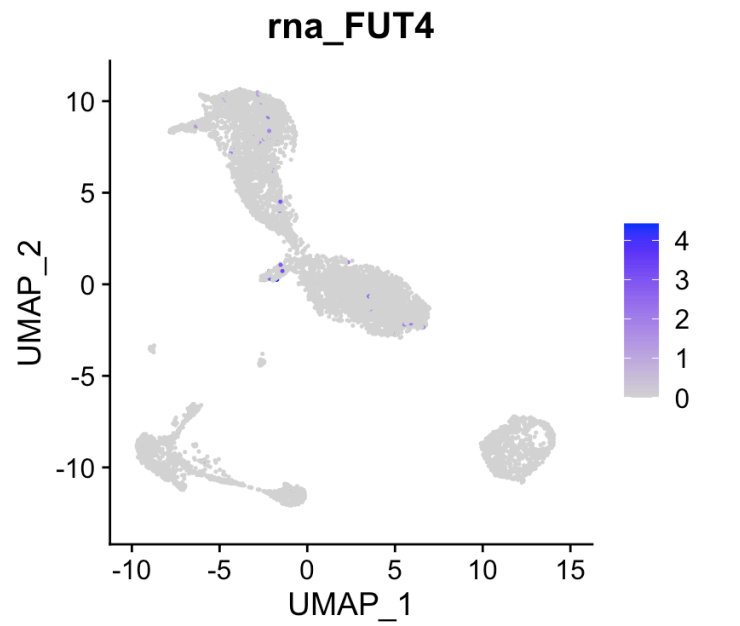
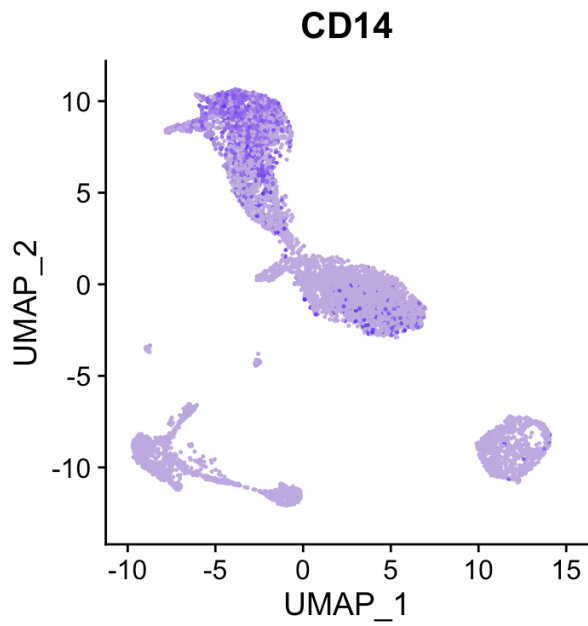
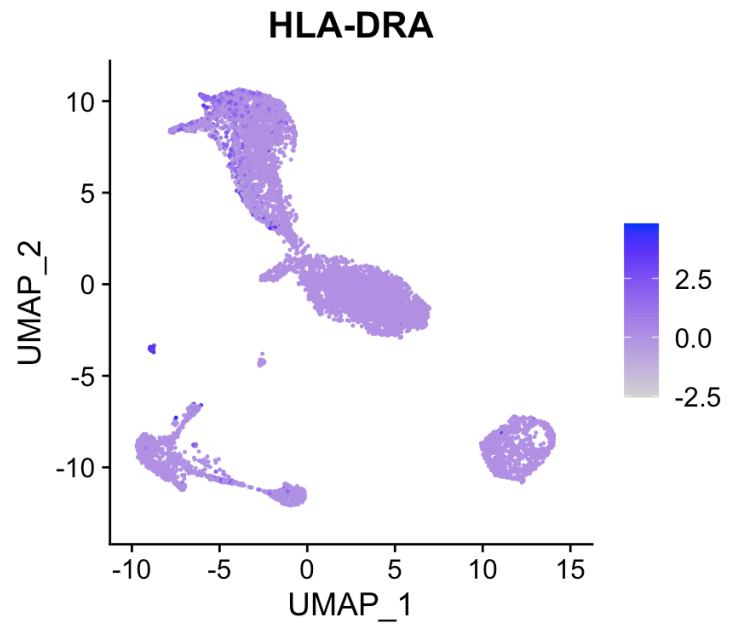
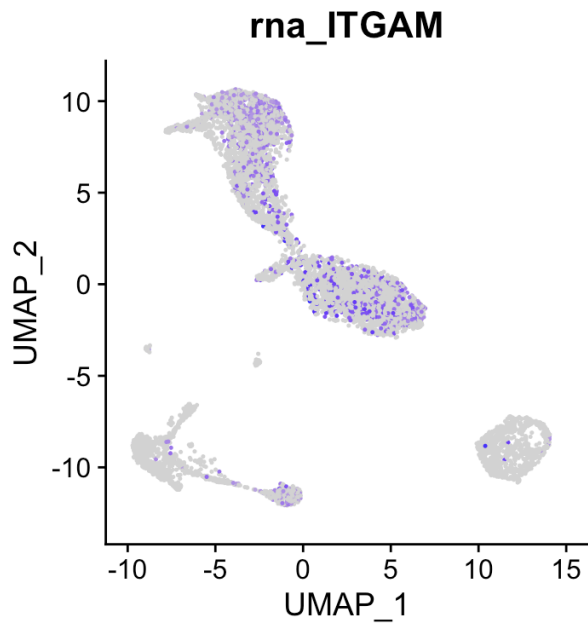


**CD14**



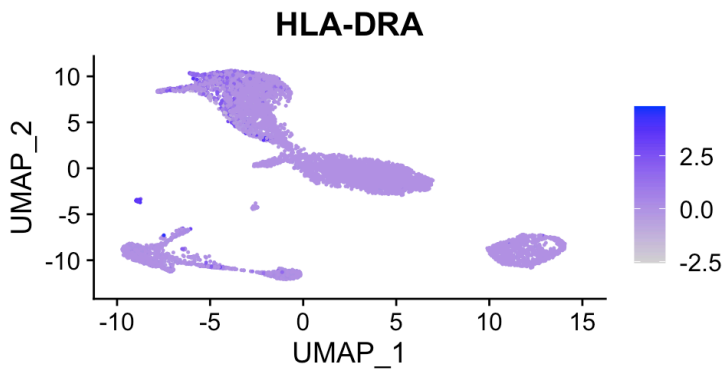
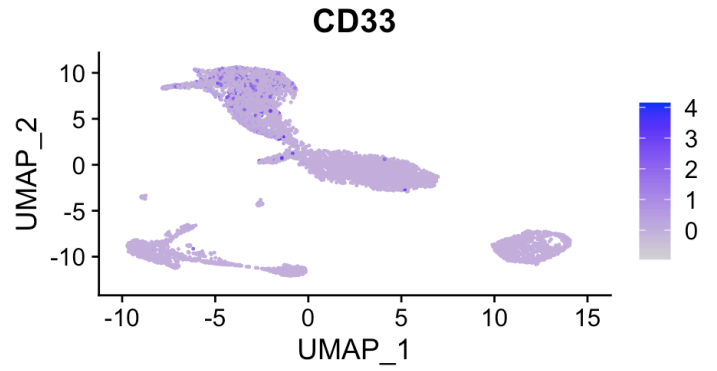
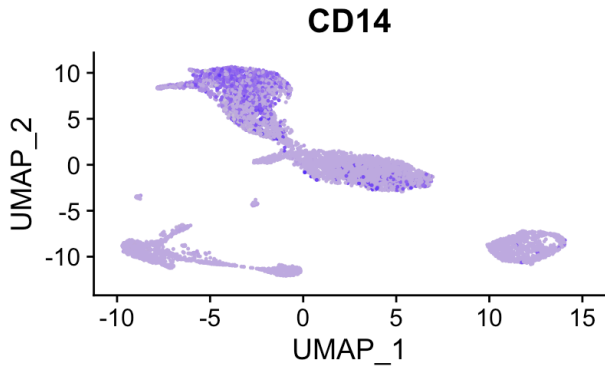
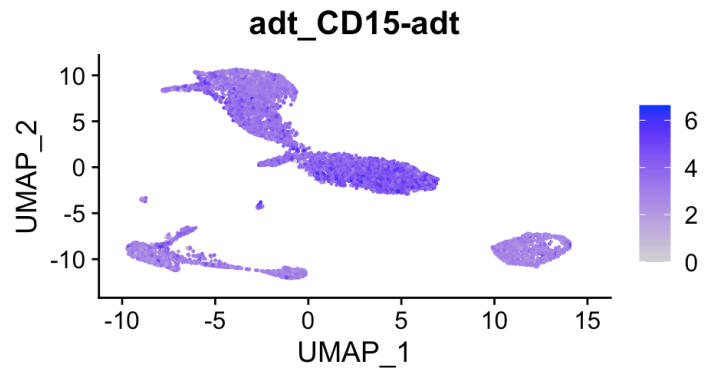
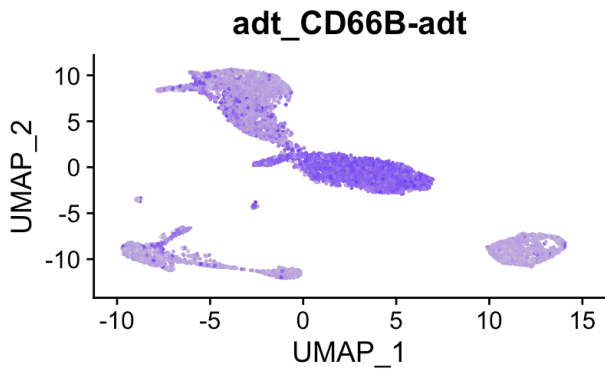
**adt\_CD15-adt**



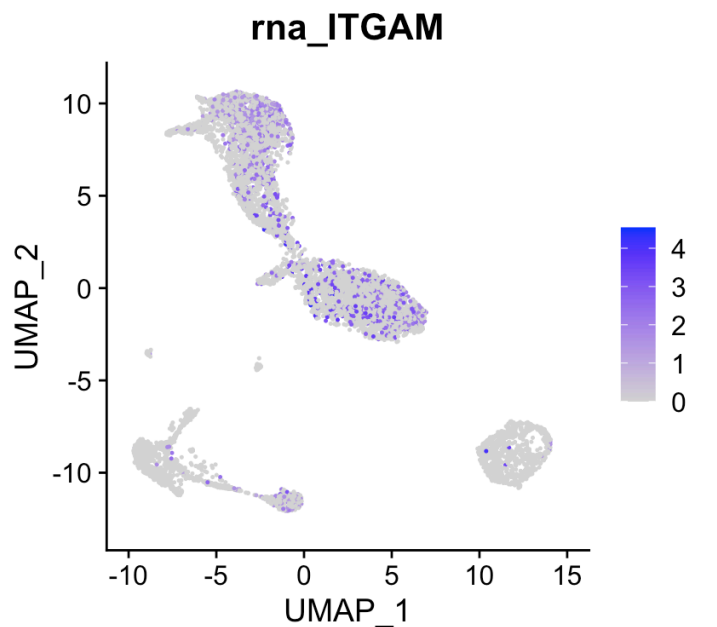
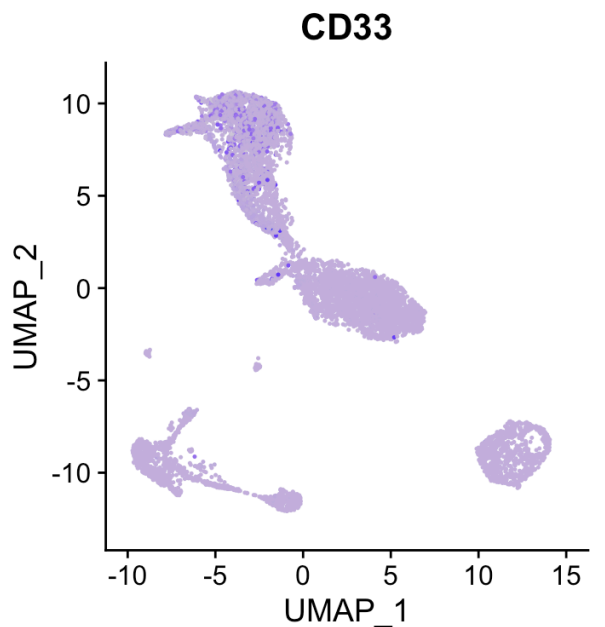


**G-MDSC (CD66b+ CD15+ CD14-/dim CD33dim HLA-DR-):**

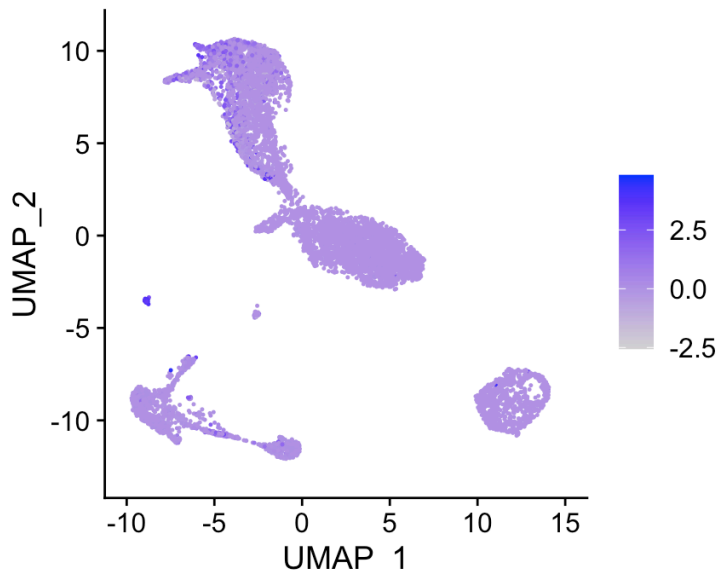
**Clusters 1, 3 are G-MDSC.**



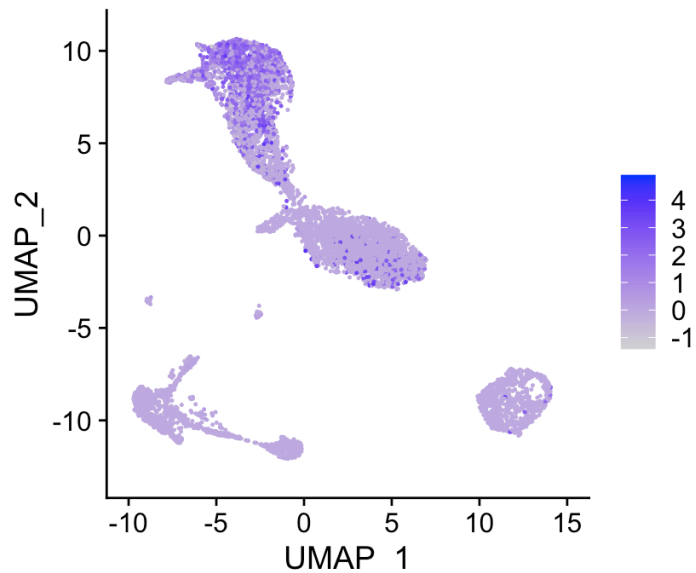
**Any early MDSC (CD33+ CD11b+ HLA<sup>low/-</sup> CD14- CD15- CD66- E-MDSC) – Cluster 8.**



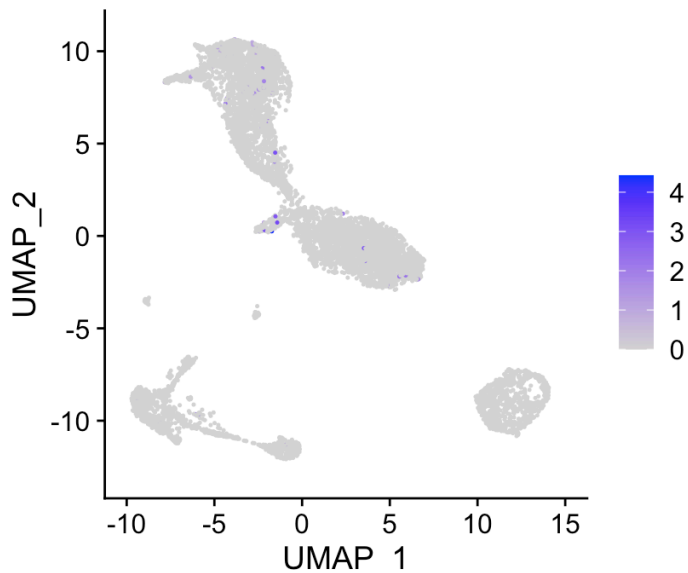
**HLA-DRA**



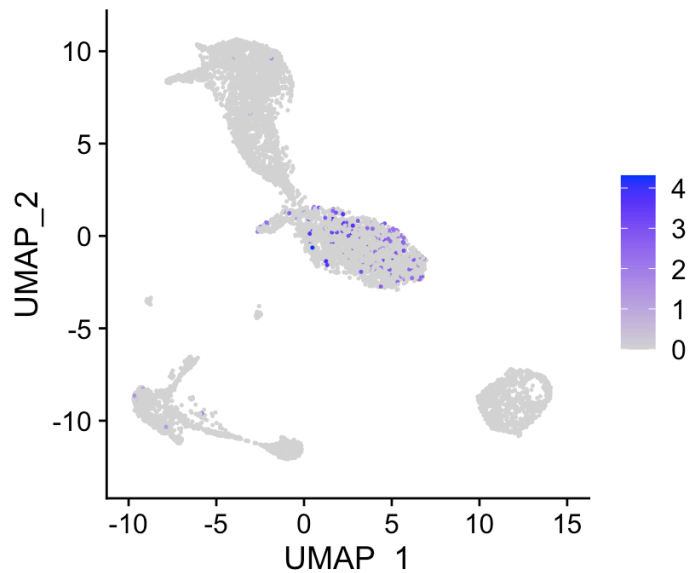
**CD14**



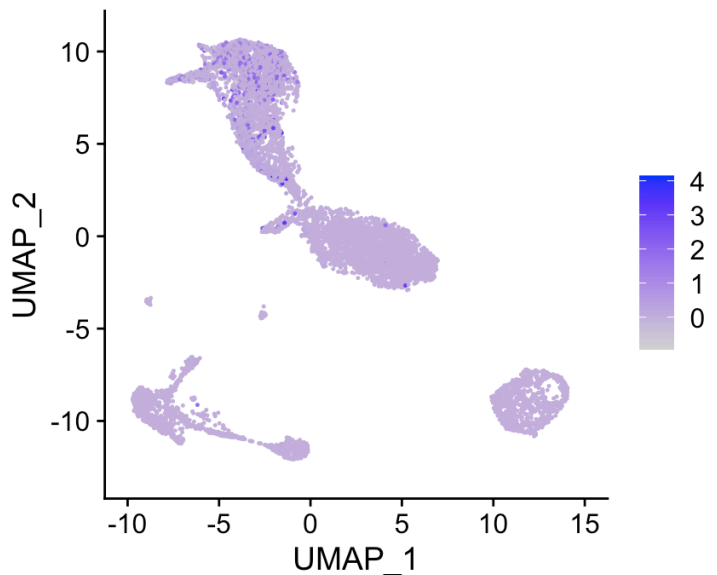
**rna\_FUT4**



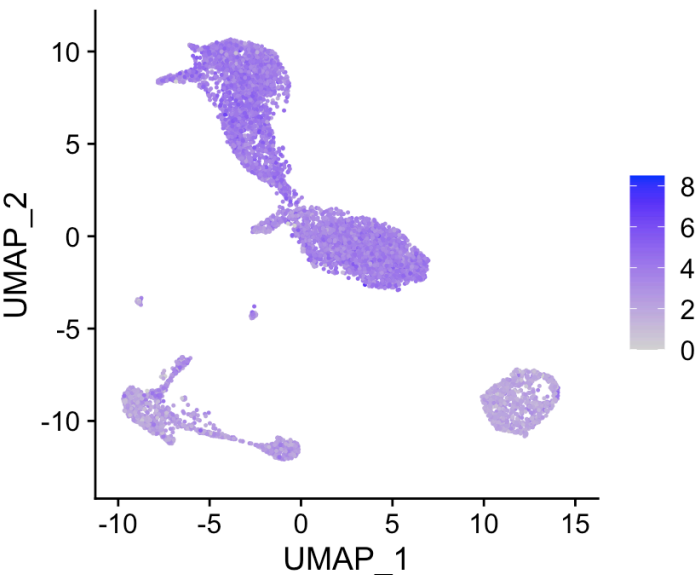
**rna\_CEACAM1**



**CD33**

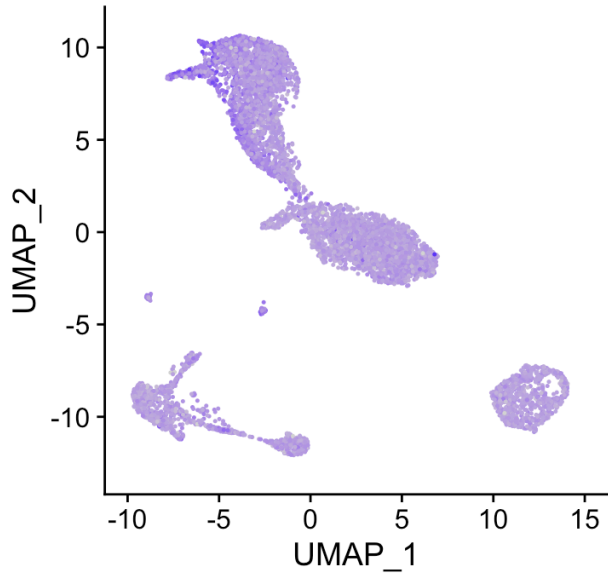


**adt\_CD11B-adt**

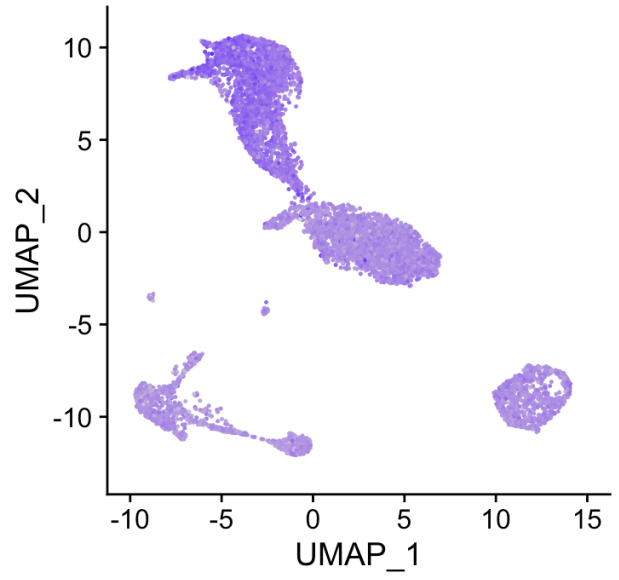




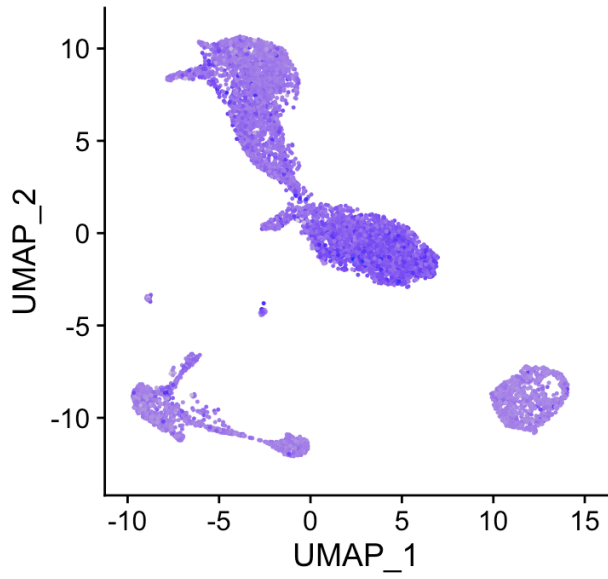
**adt\_HLA-DRA-adt**



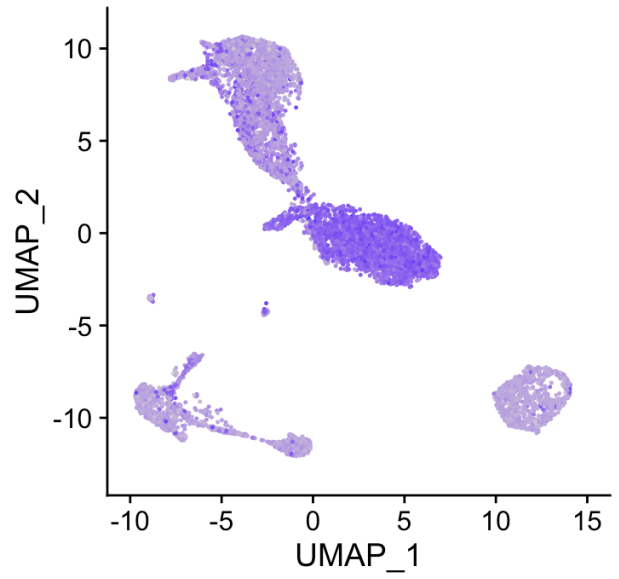
**adt\_CD14-adt**



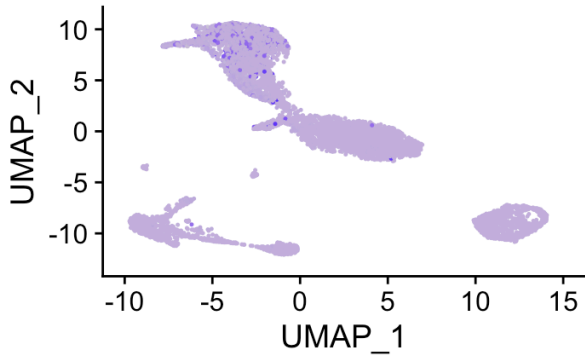
**adt\_CD15-adt**



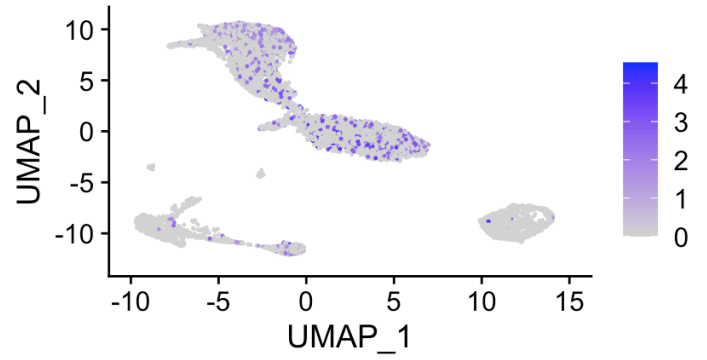
**adt\_CD66B-adt**



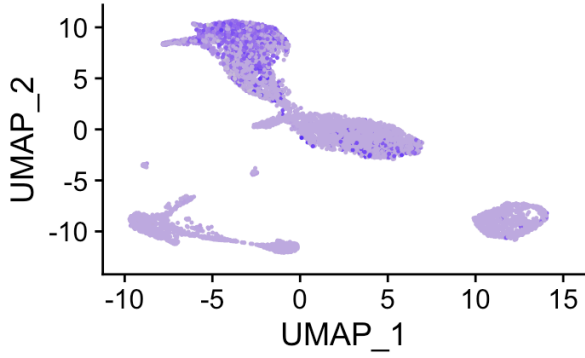
**CD33**



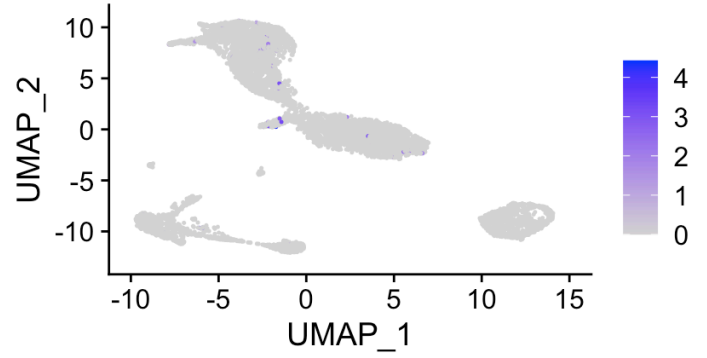
**rna\_ITGAM**



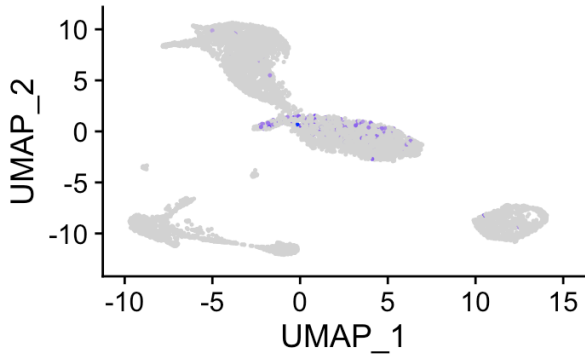
**CD14**



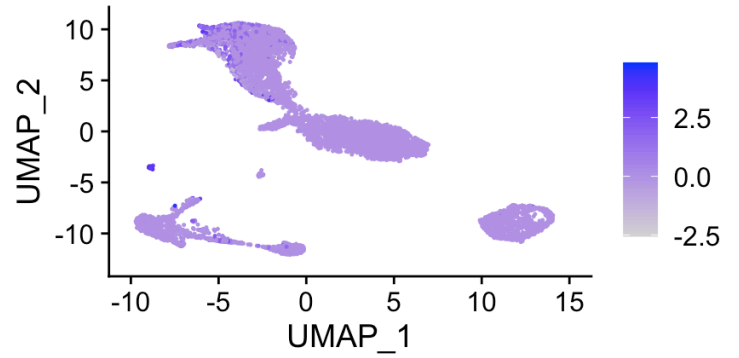
**rna\_FUT4**



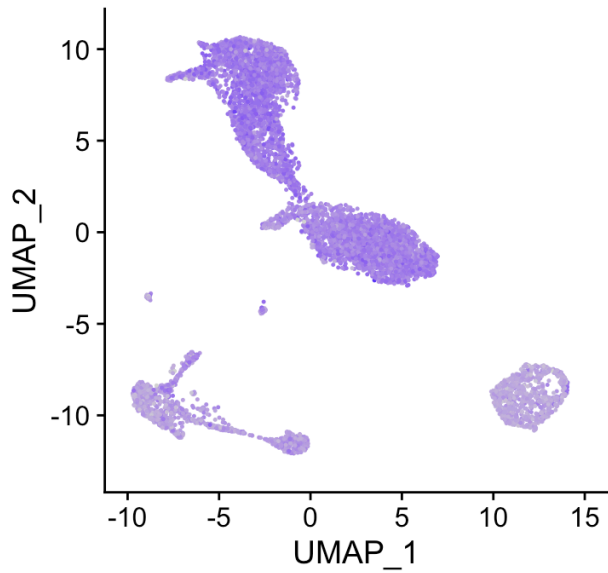
**rna\_CEACAM8**



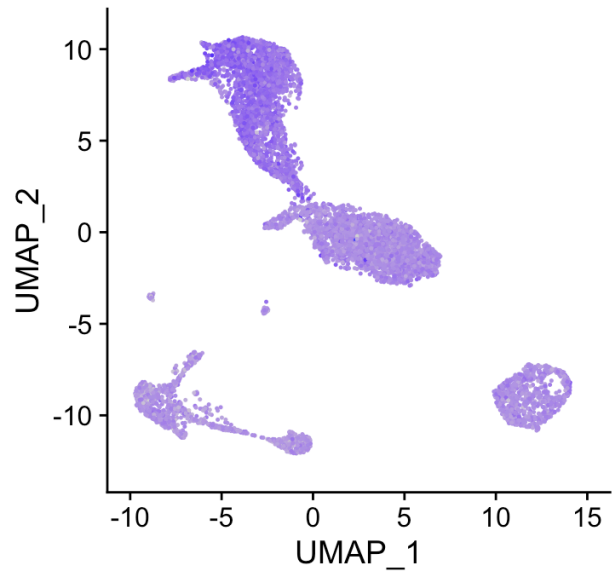
**HLA-DRA**



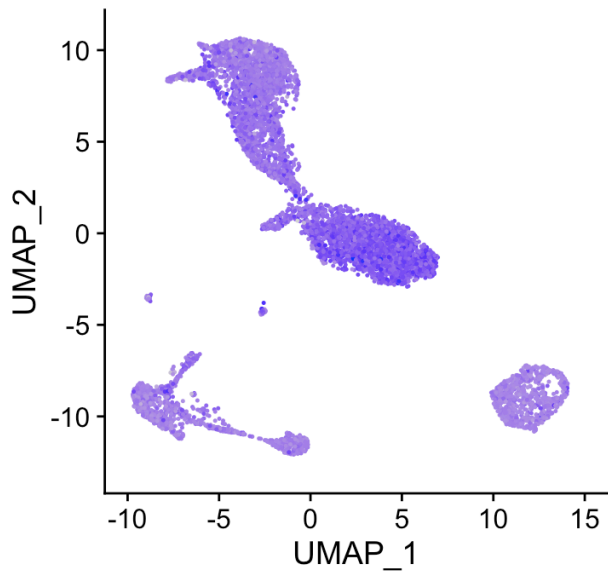
**adt\_CD11B-adt**



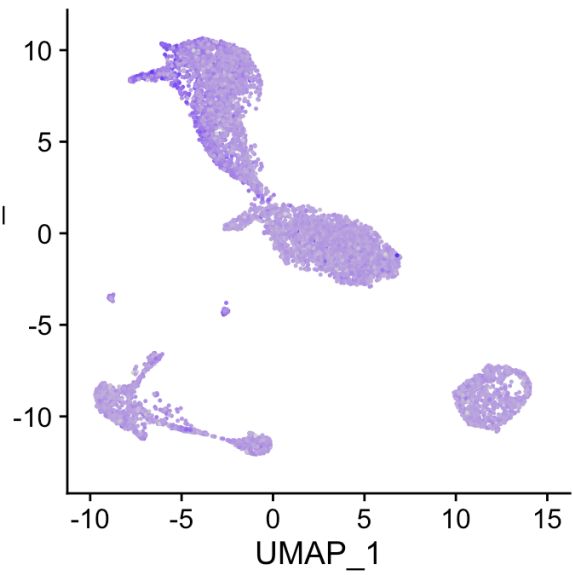
**adt\_CD14-adt**



**adt\_CD15-adt**

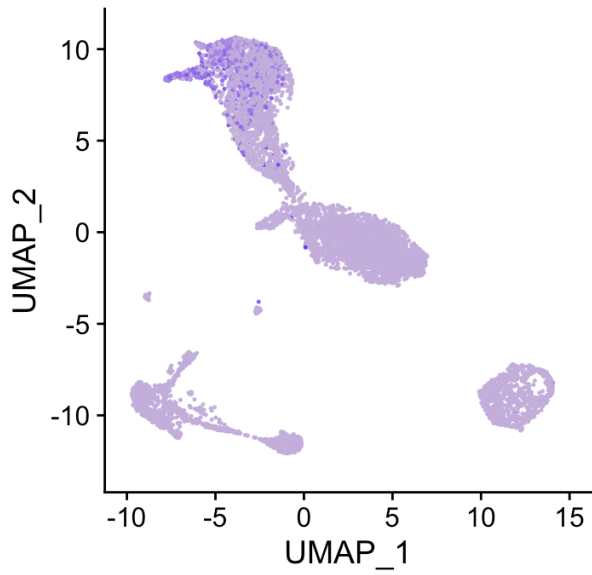


**adt\_HLA-DRA-adt**

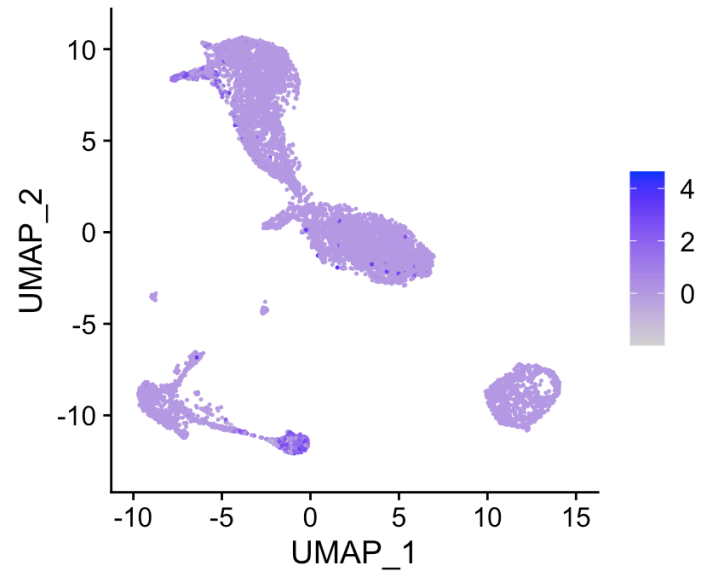


**Cluster 9 is activated macrophage:**

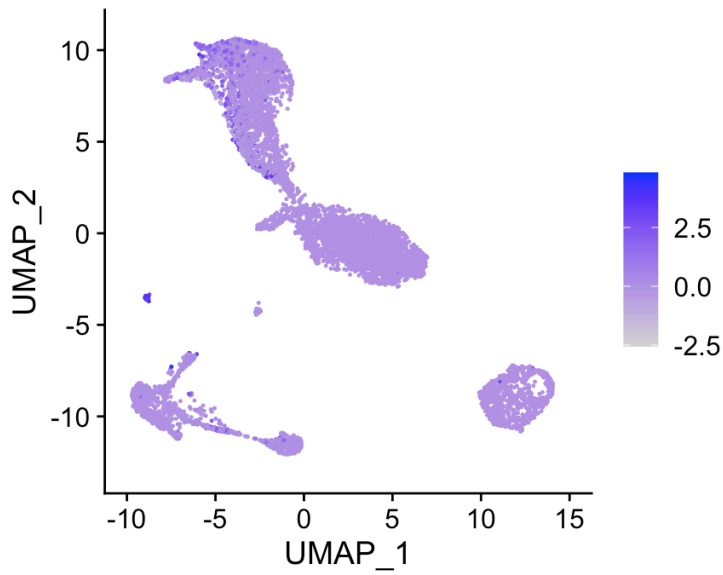
**MS4A7**



**FCGR3A**

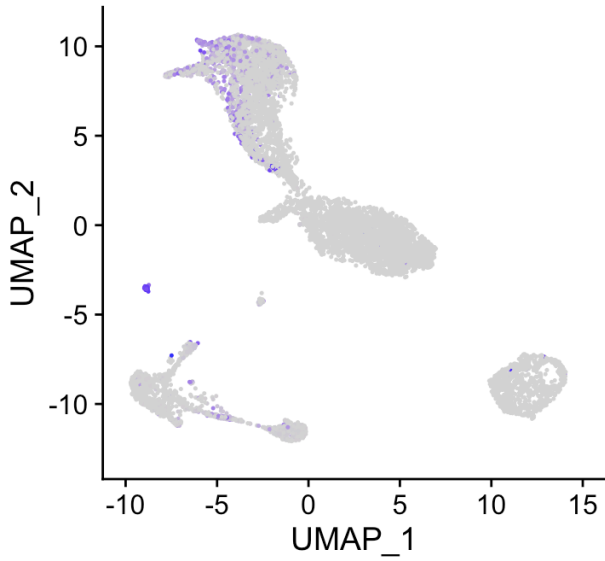


**HLA-DRA**

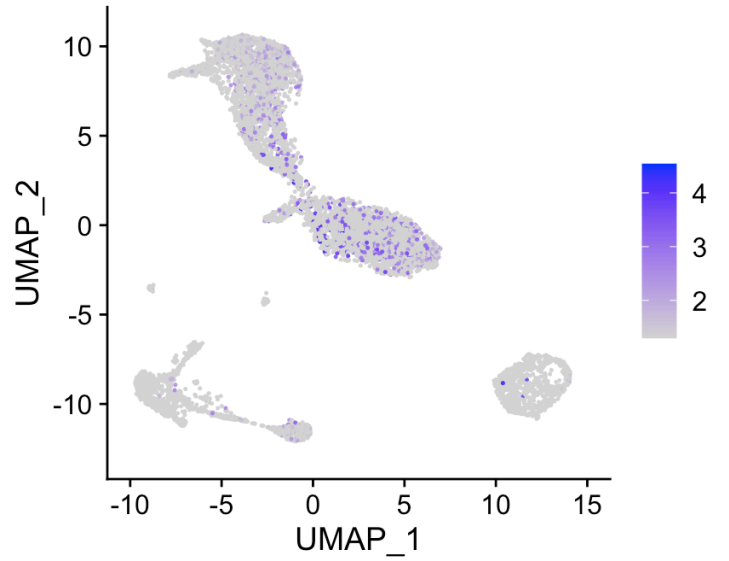


**Cluster 6, Monocytes (markers HLA-DR+ CD11b+ or CD14+ and CD16+):**

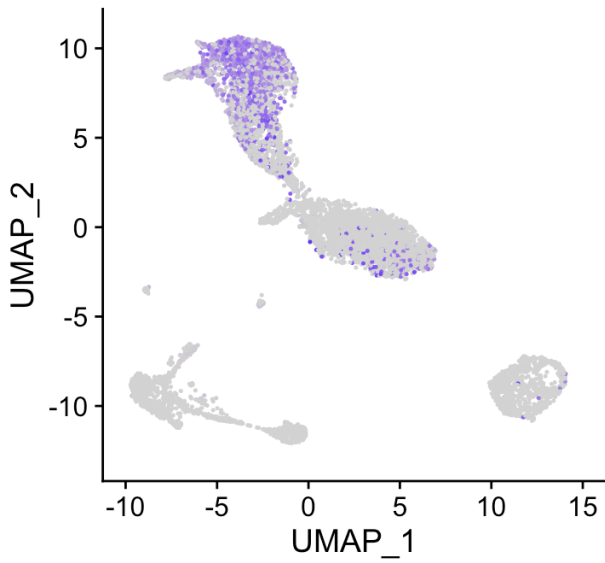
**HLA-DRA**



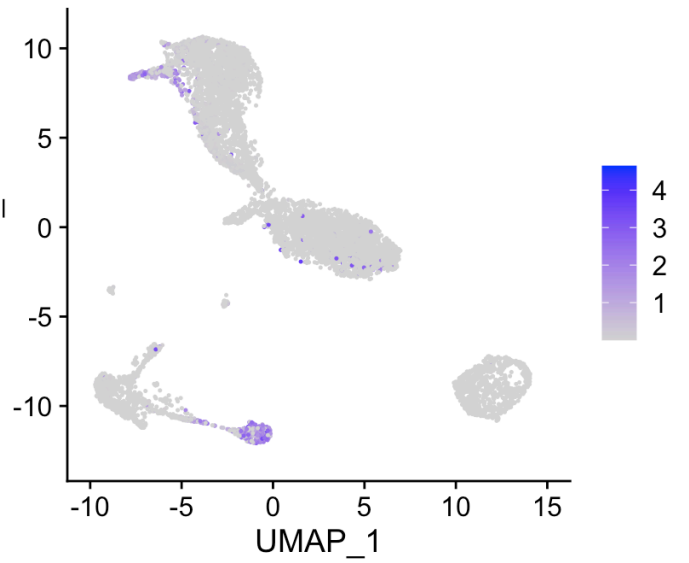
**rna\_ITGAM**



**CD14**



**FCGR3A**



Unclear what cluster 13 is based on the markers above...very few cells, no need to annotate.

