

## Short Read Workshop Day 8 Homework Assignment

Adjust the integration, UMAP, and clustering parameters to observe effects on projection and cluster identification. Use the UMAP tutorial website provided in the worksheet for help in understanding the effects of these different parameters. Also, for more information on these datasets, here is a link to the paper: [https://www.cell.com/stem-cell-reports/pdf/S2213-6711\(23\)00183-2.pdf](https://www.cell.com/stem-cell-reports/pdf/S2213-6711(23)00183-2.pdf)

- 1) Increase and decrease the `k.weight` parameter in the `FindIntegrationAnchors()` function. Then go through the process of scaling this integrated object (`ScaleData()`), and conducting UMAP reduction, followed by plotting using `DimPlot(integrated.object, group.by = 'cell.id')`. You can see how the `k.weight` parameter will change the level at which these two datasets are integrated
- 2) Adjust the UMAP and `FindClusters()` parameters (`min.dist`, `n.neighbors`, and `resolution`), to see how these parameters affect the UMAP projection and the ensuing cluster identification.