Single cell RNA seq data Analysis

<https://learn.gencore.bio.nyu.edu/single-cell-rnaseq/>

<https://www.bioinformatics.babraham.ac.uk/training.html>

<https://www.10xgenomics.com/blog/single-cell-rna-seq-an-introductory-overview-and-tools-for-getting-started>

<https://chanzuckerberg.github.io/scRNA-python-workshop/intro/about.html>

<https://help.geneiousbiologics.com/hc/en-us/articles/4781289585300-Understanding-Single-Cell-technologies-Barcodes-and-UMIs>

<https://www.youtube.com/watch?v=6UVOdCc1Q7I>

<https://github.com/kpatel427/YouTubeTutorials/blob/main/singleCell_standard_workflow.R>

cellular barcoding :https://pubmed.ncbi.nlm.nih.gov/30377352/#:~:text=Cellular%20barcoding%20is%20a%20technique,tracked%20through%20space%20and%20time.

Unique identifier molecule:

Very useful video on single cell analysis :

<https://www.youtube.com/watch?v=G-XmYchwmgc>

Standard workflow for single cell RNA seq analysis

Count Matrix

QC and Filtering

Normalization

Identify Highly variable genes

Scale data

Linear dimensionality reduction (PCA)

Clustering

Non-linear dimensionality reduction (UMAP/tSNE)

Downstream Analysis

Cluster Identification

Perform differential gene expression between clusters/differential chromatin accessibility analysis

Inferring trajectories/lineage

Analysis by R packages

Seurat

Tidyverse

Download the datasets

10x Genomics -search google.

Dataset

Single cell gene expression

<https://www.10xgenomics.com/resources/datasets/40-k-mixture-of-nsclc-dt-cs-from-7-donors-3-ht-v-3-1-3-1-high-6-1-0>

Non small cell lung cancer dataset

Gene expression cell matrix HDF5

Shizhong is not happy with your performance

We would like to terminate you

In that case we will give you 2 weeks notice

From tomorrow you not need to come

I don’t know why thi happen

I tried my best to give the output

If you check my slack message I have prepared two format of scripts

However,he is wasing he was busy dut tl grant submission

He didn’t give me any instruction on how I can proceed on my work

Yesterday,I had meeting,I ent his room,I gave him message but he didn’t respond yet

I don’t know what to say

<https://www.singlecellcourse.org/scrna-seq-dataset-integration.html>

important tutorial on single cell rna seq data analysis

<https://github.com/quadbiolab/scRNAseq_analysis_vignette/blob/master/Tutorial.md#introduction>

<https://github.com/quadbiolab/scRNAseq_analysis_vignette/blob/master/Tutorial.md>