May17 - 2023

scRNAseq analysis notes/updates

**Aurelia data**

Aurelia is apparently a complex of 13 species?

Relevant species evaluation paper <https://doi.org/10.1007/s00227-003-1070-3>

Aurelia coerulea

Paper link - <https://doi.org/10.1101/2023.02.06.527379>

Data link on github - <https://github.com/Changhao051/bulk/blob/main/cell_atlas_umap%26cluster.R>

Gene models - <https://www.ncbi.nlm.nih.gov/bioproject/?term=PRJNA490213>

Aurelia aurita

genome - <https://www.ncbi.nlm.nih.gov/bioproject/?term=PRJNA490213>

Paper - ​​ [10.1038/s41559-018-0719-8](https://doi.org/10.1038/s41559-018-0719-8)

Aurelia sp.1

Other scRNA expression data: [10.1371/journal.pone.0132544](https://doi.org/10.1371/journal.pone.0132544)

Paper - <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4520661/>

Data - transcriptome paired end cDNA libraries for life stages -> scRNAseq??

Paper with genomes available if i wanted to search for presence absence of specific genes - <https://www.nature.com/articles/s42003-022-04399-1> - align with MUSCLE and then map - look for gene homologs

Programs

* Seurat
* Monocle 3
  + <https://cole-trapnell-lab.github.io/monocle3/docs/installation/>

Gene by gene notes from committee meeting #1 findings

* 24 - gastrodermis
  + Cathepsin L
    - Reorganizing ECM and non specific degradation
  + DDAH
    - Cell production like pulmonary fibrosis
  + CheGast
  + P-Lipase
    - Fibroblast growth factors - integrins intra and extracellular
* 22 - gland cell
  + shkT
  + Trypsin dom prot B and A