CENTER for EPIGENOMICS at UC San Diego

Preparation of samples for sci- or 10x-ATAC-seq

Primary or cultured cells

1) Resuspend cells in 0.5 mL of media containing 10% DMSO (Input: sci-ATAC-seq: ≥1M cells; 10x-scATAC-seq: >250k cells; 10x-sc/snRNA + sci/10x-ATAC-seq (from same sample): ≥500k cells)

   Note: The critical factor is that the resuspension medium contains 10% DMSO or equivalent cryoprotectant. Cells frozen down without cryoprotectant are not amenable to ATAC-seq. In our experience, the other media components used at this stage are not critical.

2) Slow freeze in isopropanol bath or similar, at -80°C.
   Note: In our experience, it is also fine to flash freeze the cells directly in liquid nitrogen. In some cases, we find that slow freezing can lead to slightly better signal-to-noise ratio.
   After freezing, cells can be stored for months at -80°C.

Tissues

Tissues should be flash-frozen in liquid nitrogen immediately upon resection. If unable to freeze immediately, we recommend storing in ice-cold PBS in the interim. Tissues should be unfixed. (Input: sci-ATAC-seq: ≥500k nuclei; 10X-ATAC-seq: ≥250k nuclei; 10x-sc/snRNA + sci/10x-ATAC-seq (from same sample): ≥500k nuclei)

General Notes:

1) **Important*:*** Before preparing a large set of samples for sci or 10x-ATAC-seq, we strongly recommend submitting 1-2 test samples of the same type and using the same preparation method as the larger batch of samples to be assayed.
2) If you cannot fulfill the sample input requirements, please contact epigenome@ucsd.edu we will find a custom solution for you.
3) We prefer that samples be submitted in standard 1.5 mL microfuge tubes or 2 mL cryotubes. If you require another format, please contact epigenome@ucsd.edu to make arrangements prior to sample submission.