CENTER for EPIGENOMICS at UC San Diego

Preparation of samples for ATAC-seq / scATAC-seq

Primary or cultured cells

1) Resuspend ≥ 250,000 cells in 0.5 mL of media containing 10% DMSO.
   - 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. Approximately 100mg of tissue are required unless otherwise agreed upon.

General Notes:

1) **Important**: Before preparing a large set of samples for ATAC-seq or scATAC-seq, we strongly 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) We prefer that samples be submitted in standard 1.5 mL microfuge tubes. If you require another format, please contact epigenome@ucsd.edu to make arrangements prior to sample submission.