Anatomical level Specimen Portal

1. donor
2. brain segment
3. brain section — ROI Polygon

anatomical structures

brain extraction
brain segment sectioning
ROI delineation
tissue dissection

bypass

Cellular level Sequencing Portal

anatomical structures

4. tissue sample
5. dissociated cell sample — dissociated source barcode "cell hashing"
6. enriched cell sample — enriched source barcode antibody information
7. barcoded cell sample — cell member barcode technique
8. amplified cdna — technique
9. library — R1, R2 indices technique
10. library aliquot
11. library pool

split

cell dissociation
cell enrichment
cell barcoding
cdna amplification
library construction
library aliquoting
library pooling

no enrichment
no amplification

n : (cell dissociation, cell enrichment, cell barcoding)
N : (library pooling)

Seq Core

12. Sequenced data (FASTQ files)

sequencing

A set of FASTQ files (R1, R2, I1, I2) for each **library aliquot in a library pool** "demultiplexed fastqs"

NeMO

13. Aligned data Cell x gene matrix
Aligned data BAM file

alignment

n

Cell x gene matrix (GEX) and Cell x fragment matrix (ATAC) **Individual cell has unique molecular barcode introduced during barcoding**

Fragment analysis → SnapATAC file Cell x fragment matrix

Sequencing results from another library aliquot can be **merged if** it originates from the **same barcoded cell sample**

Lydia Ng, Kimberly Smith (Allen Institute for Brain Science)

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N : Multiple inputs possible WITHIN AND ACROSS species
n : Multiple inputs possible WITHIN the SAME species

Object w metadata
Digital data asset
Process w metadata
★ Present in all methods