

R1

R2

barcode

UMI

3' cDNA

ACAGTACTAGCATCGT.....GACTGAGCTATCGA
 ACAGTACTAGCATCGT.....GACTGAGCTATCGA
 ACAGTACTAGTAGCTC.....GACTGAGCTATCGA
 ACAGTACTGCATCGAC.....GCATGCATCGATCT
 ACAGTACTTAGTACGA.....GCATGCATCGATCT
 ACGTGATCGCATCGAC.....GCATGCATCGATCT
 ACGTGATCCTGACTAG.....GCATGCATCGATCT
 TACACGATAGCATCGC.....GCATGCATCGATCT

2

3

cell 1

2

2

cell 2

0

2

cell 3

0

1

gene 1

gene 2

1

Gene 1

Gene 2

reference transcriptome

cells-by-genes UMI count matrix