

	Cells
gene-1	
gene-2	
gene-3	
gene-4	
gene-5	
⋮	
gRNA- <i>d</i>	

1. Response-by-cell matrix

	N UMIs	p mito	batch	...
Cells				

3. Cell-by-covariate matrix

	Cells
gRNA-1	
gRNA-2	
gRNA-3	
gRNA-4	
⋮	
gRNA- <i>d</i>	

2. gRNA-by-cell matrix

gRNA ID	gRNA group
gRNA-1	group-1
gRNA-2	group-1
gRNA-3	group-2
gRNA-4	group-2
gRNA-5	non-targeting
gRNA-6	non-targeting
gRNA-7	non-targeting
⋮	⋮

4. gRNA group table