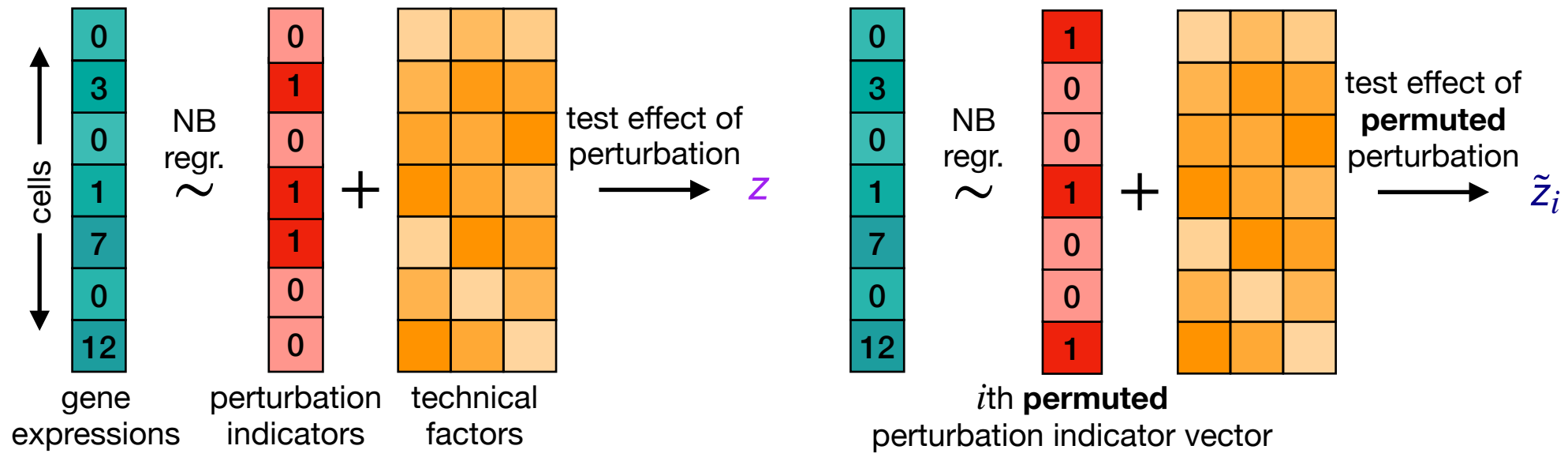


- a**
- 1 Obtain z-score from NB regression of gene expression on perturbation indicator and technical factors
 - 2 For $i = 1, \dots, B$:
Permute perturbation indicator and recompute z-score to obtain null z-score \tilde{z}_i



- 4 Obtain p-value by comparing original z-score z to fitted null distribution
- 3 Fit smooth curve to null z-scores \tilde{z}_i

