Clustering Methods

Graph-based Clustering
Build kNN graph then find communities

Leiden Algorithm
Improved Louvain with better guarantees

K-means Adaptations
SC3 uses consensus clustering

Resolution Selection
Higher resolution = more clusters

Stability Analysis
Bootstrap to assess cluster robustness

💡 **No single correct clustering - depends on biological question**

1. Build kNN Graph

k neighbors per cell

2. Find Communities

Cluster 1   Cluster 2

Louvain/Leiden

3. Resolution Parameter

Low (0.4)   Med (0.8)   High (1.2)

Few large clusters   Balanced   Many clusters

⚡ *Tune based on biology*