Spatial Multi-Omics Integration

Tissue Architecture

- Tumor
- Immune
- Stromal

y / x

Spatial Profiling →

Spatial Multi-Omics

Transcriptomics	10,000 genes
Proteomics	100 proteins
Metabolomics	500 metabolites
Imaging	H&E, IHC

(x, y, z) coordinates

Integrate →

3D Model

360° view

Spatial context preserved

Resolution: 10μm

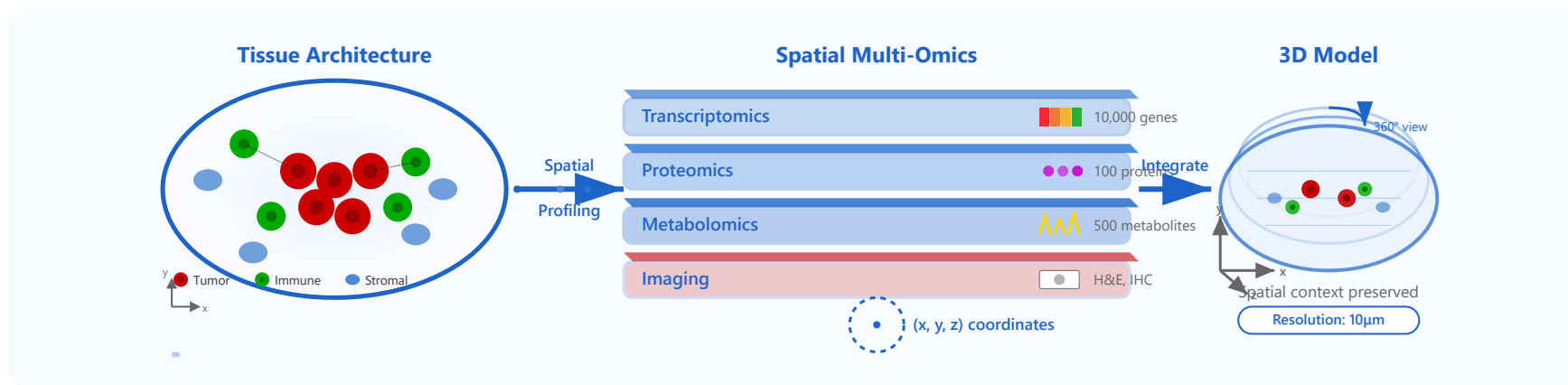
Spatial Omics
Spatial transcriptomics, proteomics, metabolomics

Image Registration
Aligning multi-modal spatial data

Cellular Neighborhoods
Microenvironment characterization

Tissue Architecture
Structural organization patterns

3D Reconstruction
Building 3D tissue models