



# Future Directions in Precision Medicine



## Single-cell Biomarkers

Tumor heterogeneity analysis at single-cell resolution for personalized therapy



## Digital Biomarkers

Wearables and mobile health monitoring for continuous patient assessment



## AI-discovered Biomarkers

Machine learning identifies novel patterns invisible to traditional analysis



## Combination Panels

Multi-biomarker signatures improve accuracy and clinical utility



## Dynamic Monitoring

Real-time tracking of disease evolution and treatment response

Vision: Seamless integration of multi-modal biomarkers into routine clinical care