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Ways Spatial Phenotyping Is Transforming Discovery Research

Spatial phenotyping has the power to transform our understanding of biology and human health, driving a new wave of biologic discovery. **Here's how.**

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CELLS DON'T LIVE ALONE

Spatial phenotyping moves beyond simply knowing what cells are present in a sample to characterizing how they cluster, which cells are adjacent, and their functional orientation. The different phenotypes associated with different cellular niches are highly predictive of tissue behavior.



The more we know about the microenvironment and mechanisms of intercellular interactions, the better we can predict cell and tissue behavior in diseased and healthy samples.

Kai Kessenbrock, PhD, Investigator, Human Cell Atlas Initiative



SQUEEZING MILLIONS OF INSIGHTS OUT OF EACH SAMPLE

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Comprehensive spatial phenotyping can reveal cell diversity, co-expression patterns, cellular interactions, broader tissue architecture, and much more – all from a single FFPE tissue section. It's an integrated systems biology approach to uncovering insights and making the unexpected connections that ultimately lead to true breakthroughs.



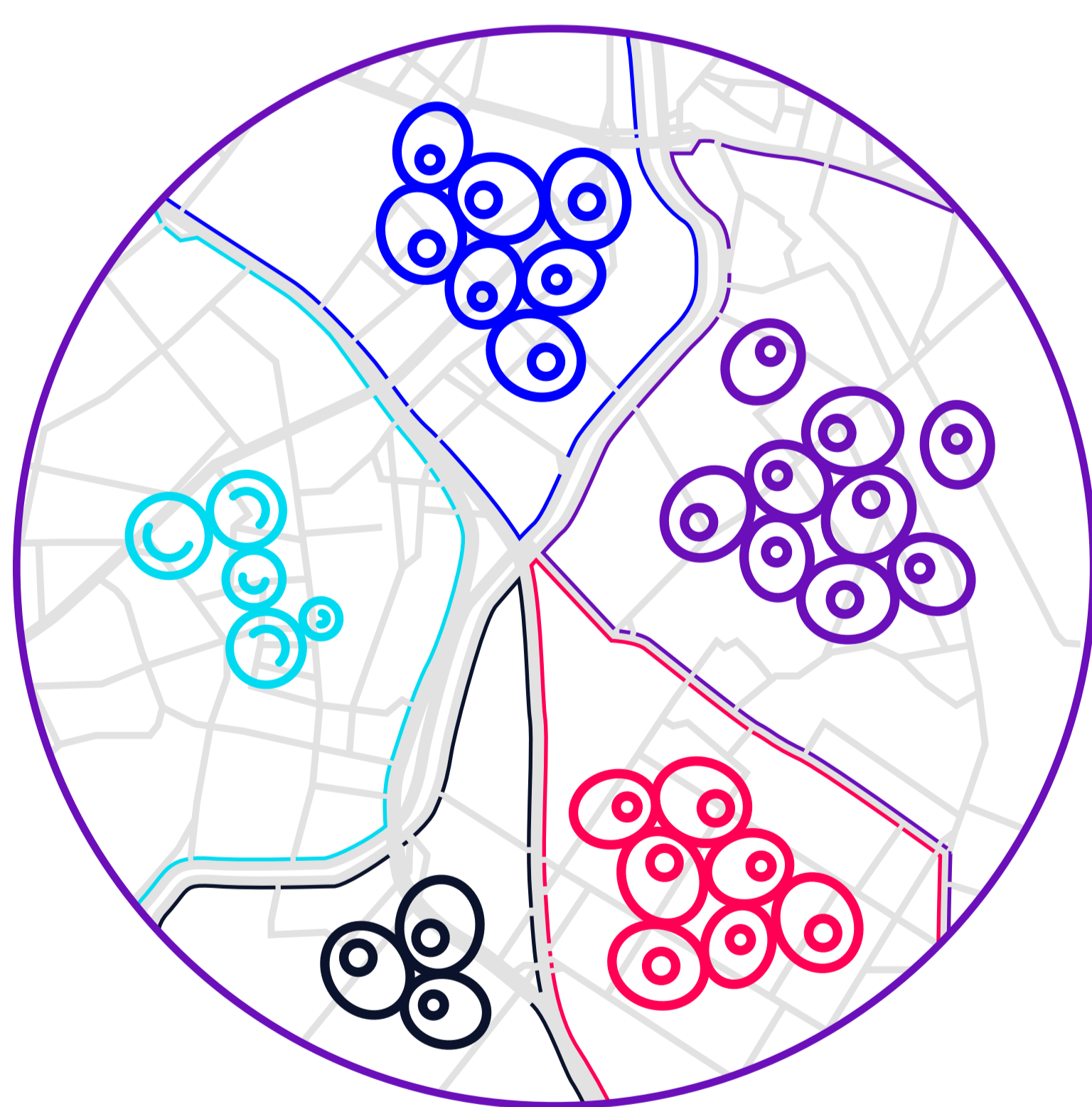
Human tissue, whether used for research or clinical diagnosis, is precious and can be a finite resource if the prediction of immunotherapy response requires the assessment of several biomarkers.

Matt Humphries, PhD, Scientific Lead, Precision Medicine Center, Queen's University, Belfast

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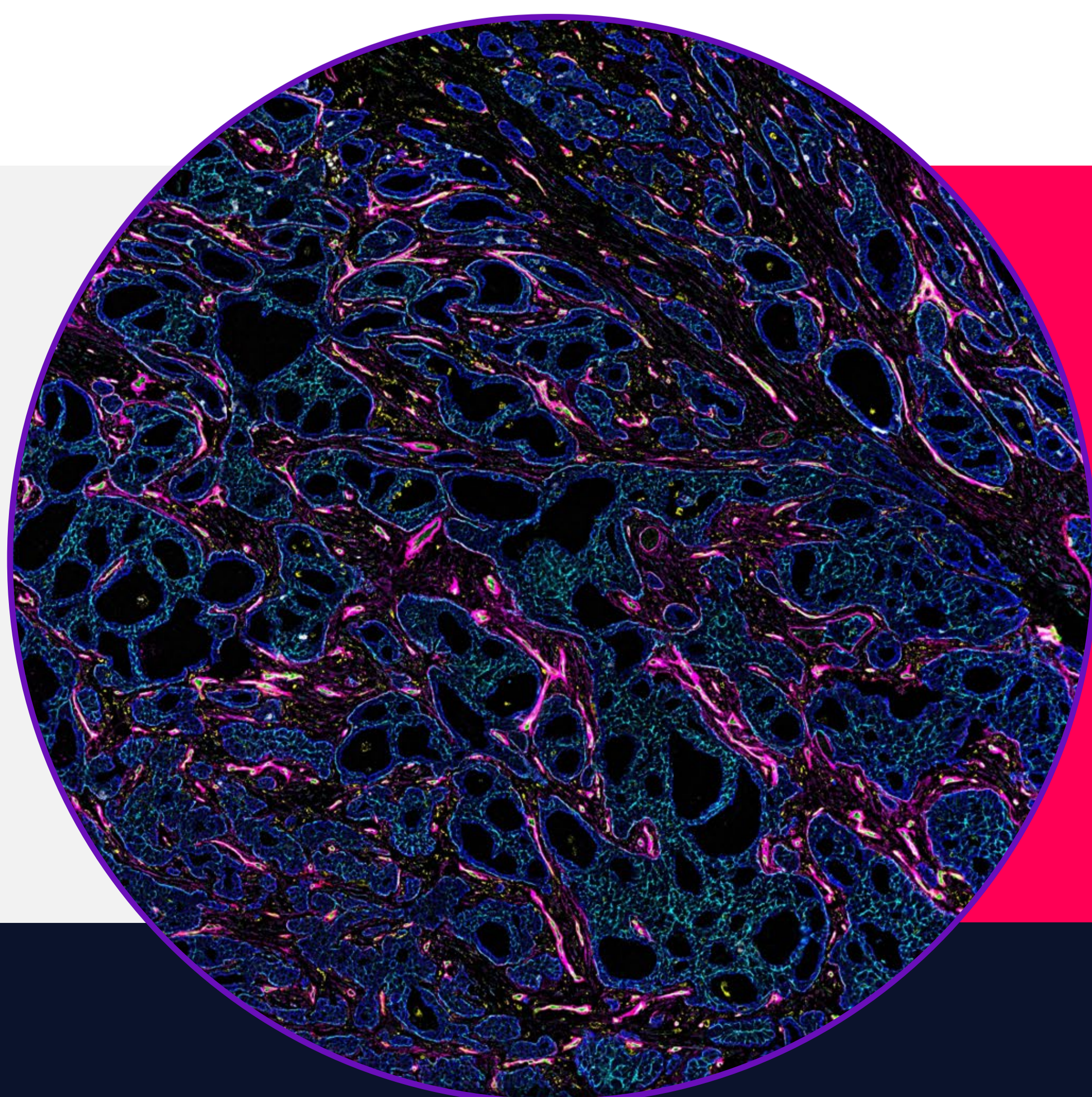
GETTING TO KNOW YOUR NEIGHBORHOOD

"Cellular neighborhoods" is how a growing number of researchers are characterizing the organization of diverse cell types across the tumor landscape. Spatial phenotyping gives a deeper view into these different neighborhoods and the way different cells influence their neighbors to reveal new insights into tumor pathology and immune response.



The *immune tumor microenvironment* is like a city of neighborhoods (e.g., industrial, residential, or agricultural), which are regions where specific functions of the city occur.

Garry Nolan, PhD, Professor, Dept. of Microbiology & Immunology, Stanford University



It's Time to Add Spatial Phenotyping to Your Discovery Tool Kit

With the CODEX® solution from Akoya Biosciences, any lab can become a spatial phenotyping discovery center. With millions of insights generated from each tissue sample, you're just one image away from uncovering your next breakthrough. **Get started at akoyabio.com.**