

## Introduction

Multiplex immunofluorescence (mIF) is a powerful tool that enables deep phenotyping of immune and cancer cells in various tissues. VistaPlex™ Multiplex Assay Kits are ready-to-use mIF panels intended to enable rapid and reliable spatial phenotyping of key immune populations. The VistaPlex Spatial Immune Profiling panel presented here contains antibodies against 16 common biomarkers used in immune-oncology applications. The Architecture Profiling panel includes markers for epithelial tissues, stromal tissues, and the extracellular matrix. To confirm the utility of VistaPlex kits, we deployed the Human FFPE Spatial Immune Profiling and Architecture panels on various FFPE tissue samples using CellScape™ Precise Spatial Multiplexing. Spatial immune and architecture profiling data were obtained from human tonsil, lung, colon, and placental samples. Our data are robust and demonstrate that VistaPlex Assay kits for spatial profiling present an efficient and cost-effective solution for spatial biology research.



## VistaPlex Spatial Immune Profiling Kit

### Spatial Immune Profiling Biomarkers

CD3	CD68	Ki-67
CD4	CD45	PD-L1
CD8	CD45RA	Pan-CK
CD20	CD45RO	Granzyme B
FoxP3	PD-1	DNA

Equipped with validated antibodies and optimized staining protocols, VistaPlex Assay Kits are ready-to-use, modular solutions that enable researchers to obtain robust data with the CellScape platform. The Spatial Immune Profiling Kit provides fundamental spatial phenotyping of key immune populations from human formaldehyde-fixed, paraffin-embedded (FFPE) tissue samples.

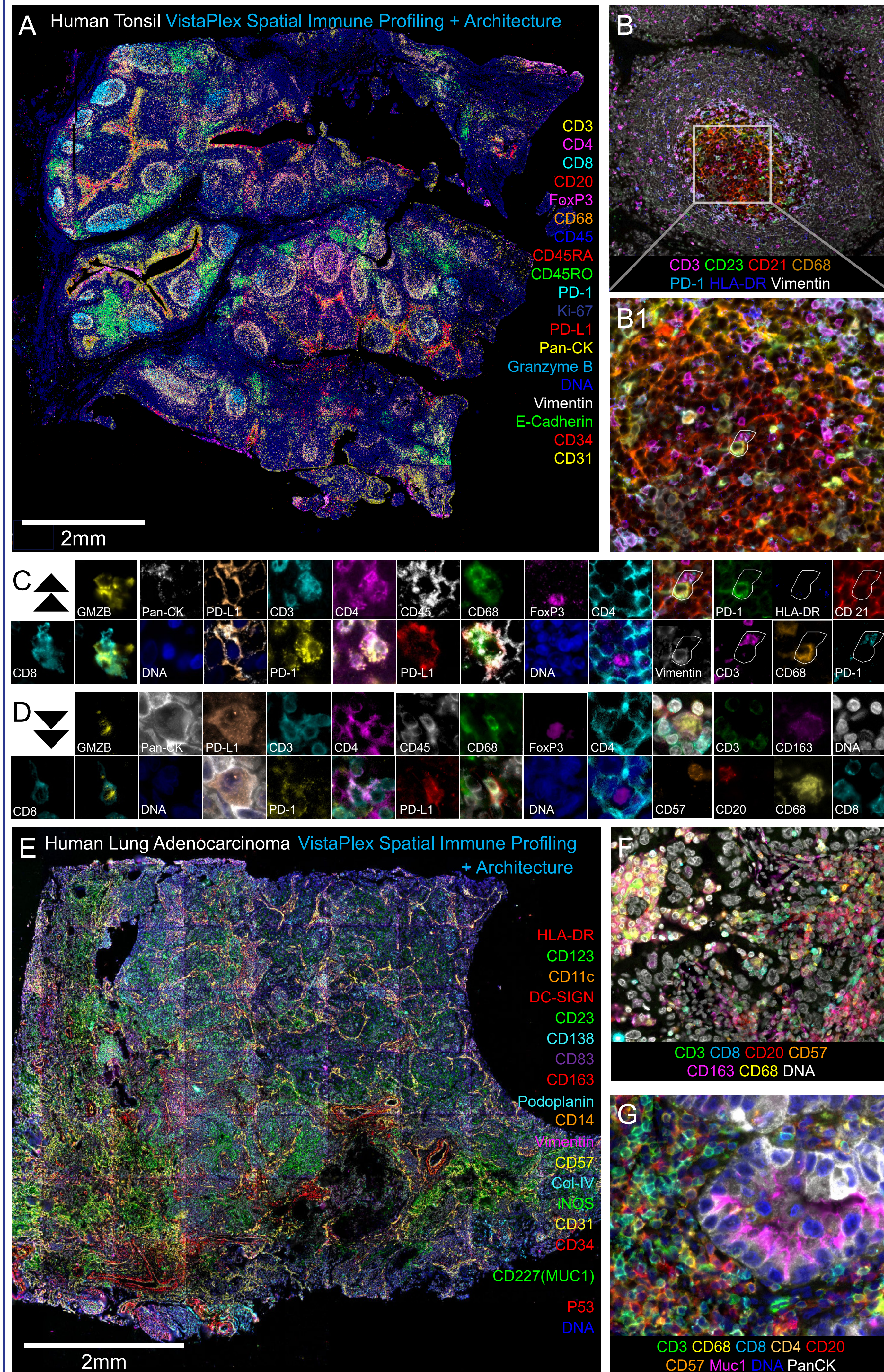
## VistaPlex Tissue Architecture Kit

### Tissue Architecture Profiling Biomarkers

CD138	E-Cadherin
Collagen-IV	CD34
Podoplanin	CD31
Vimentin	MUC1
SMA	Beta-Catenin

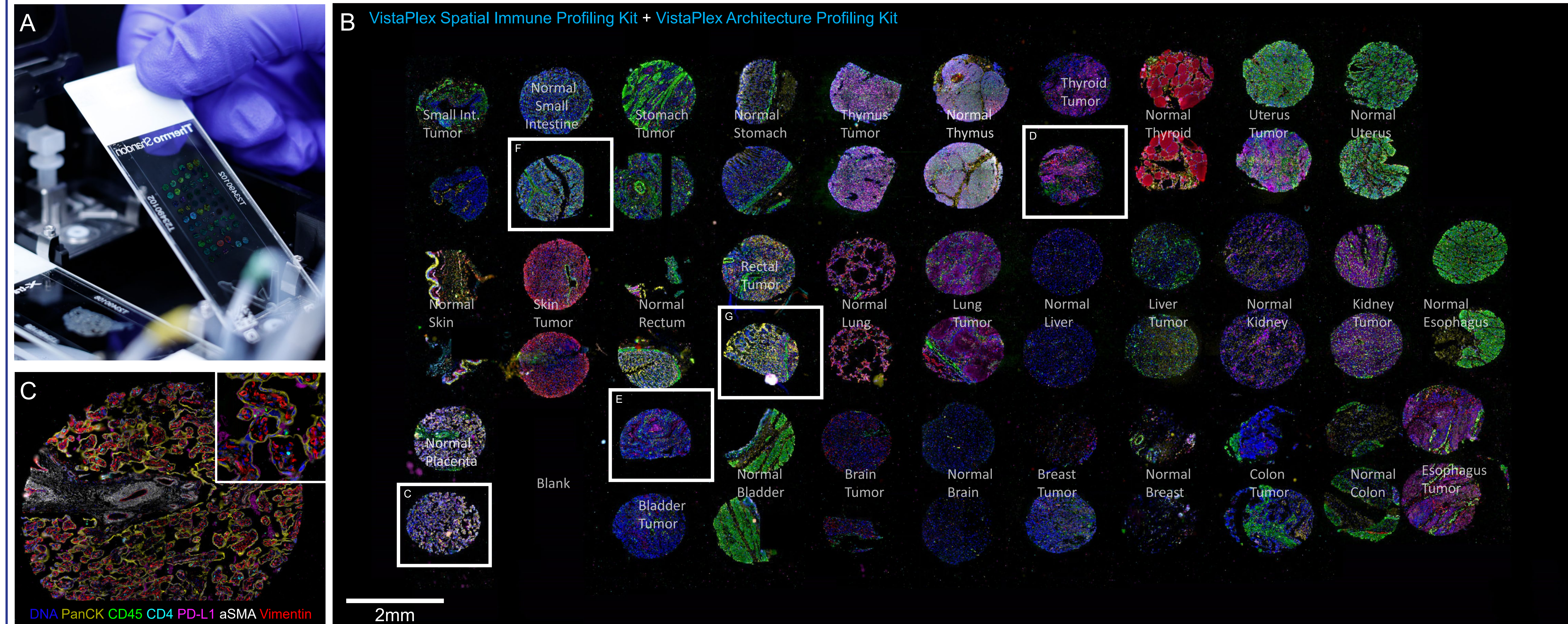
Designed as a modular add-on to the Spatial Immune Profiling Kit, the Tissue Architecture Kit adds validated antibodies and optimized staining protocols to label epithelial, myoepithelial, and endothelial cells in human FFPE tissue samples. When combined, these two VistaPlex Assay Kits provide spatial phenotyping of 24 key biomarkers that are common in immune oncology applications.

## VistaPlex Spatial Immune and Architecture Kits Enable Spatial Analysis on Human FFPE Tissues



**Figure 1A:** VistaPlex Spatial Immune Profiling and Architecture kits are a robust tool to capture a wide range of typical and tissue-specific cellular phenotypes in human FFPE tissues like tonsil (A-C) and lung (D-G). Combining VistaPlex Spatial Immune and Architecture assay kits provides the opportunity to consider not only cellular phenotypes but the overall anatomy of the tissue microenvironment such as the red-yellow gradient of developing dendritic cells by overlaying CD21 (red) and CD23 (green) in a tonsillar germinal center (B) or assessing immune structures and the degree of malignant transformation in human lung adenocarcinoma (F, G).

## VistaPlex Immune Profiling and Architecture Panels Support Spatial Analysis on a Broad Range of Human FFPE Tissue Types



**Figure 2A:** CellScape™ Whole-Slide Imaging Chamber utilizes a microfluidic approach to reliably deliver reagents across entire tissue sections on standard microscope slides. CellScape's reinterrogation feature provides users with the unique ability to iteratively increase the size of an assay panel over the course of several weeks or months.

The Spatial Immune Profiling kit was applied to a high-density 60-core TMA on Day 1. The sample was then stored at 4 °C for 2 weeks in CellScape Storage Buffer and subsequently reinterrogated with the Tissue Architecture kit on Day 14 (B). Spatial Immune Profiling and Tissue Architecture kits identify a wide variety of immune, epithelial, and stromal cell phenotypes across a variety of different tissues and disease states, including placenta (C), thyroid tumor (D), bladder tumor (E), healthy small intestine (F), and a rectal tumor sample (G).

## Conclusions

- Pairing CellScape with VistaPlex assay kits offers a robust solution for mIF spatial discovery research. In addition to rigorous validation, VistaPlex kits are designed for a broad spectrum of human FFPE tissues. With standard reagents and simple, flexible protocols, VistaPlex simplifies the mIF workflow.
- The broad utility of these kits is enhanced by the compatibility of CellScape with standard histology slides using CellScape Whole-Slide Imaging Chambers. Together, they allow efficient analysis of established pathology tissue banks.
- Adherence to standard protocols and reagents enhances the reproducibility of results, a crucial factor for consistent performance across diverse tissue types and disease states, thereby reinforcing the kits' value in basic as well as translational research settings.

## Contact

For more information, contact [hello.canopy@bruker.com](mailto:hello.canopy@bruker.com)  
Or visit [CanopyBiosciences.com](https://www.CanopyBiosciences.com)



Contact us or  
request a quote