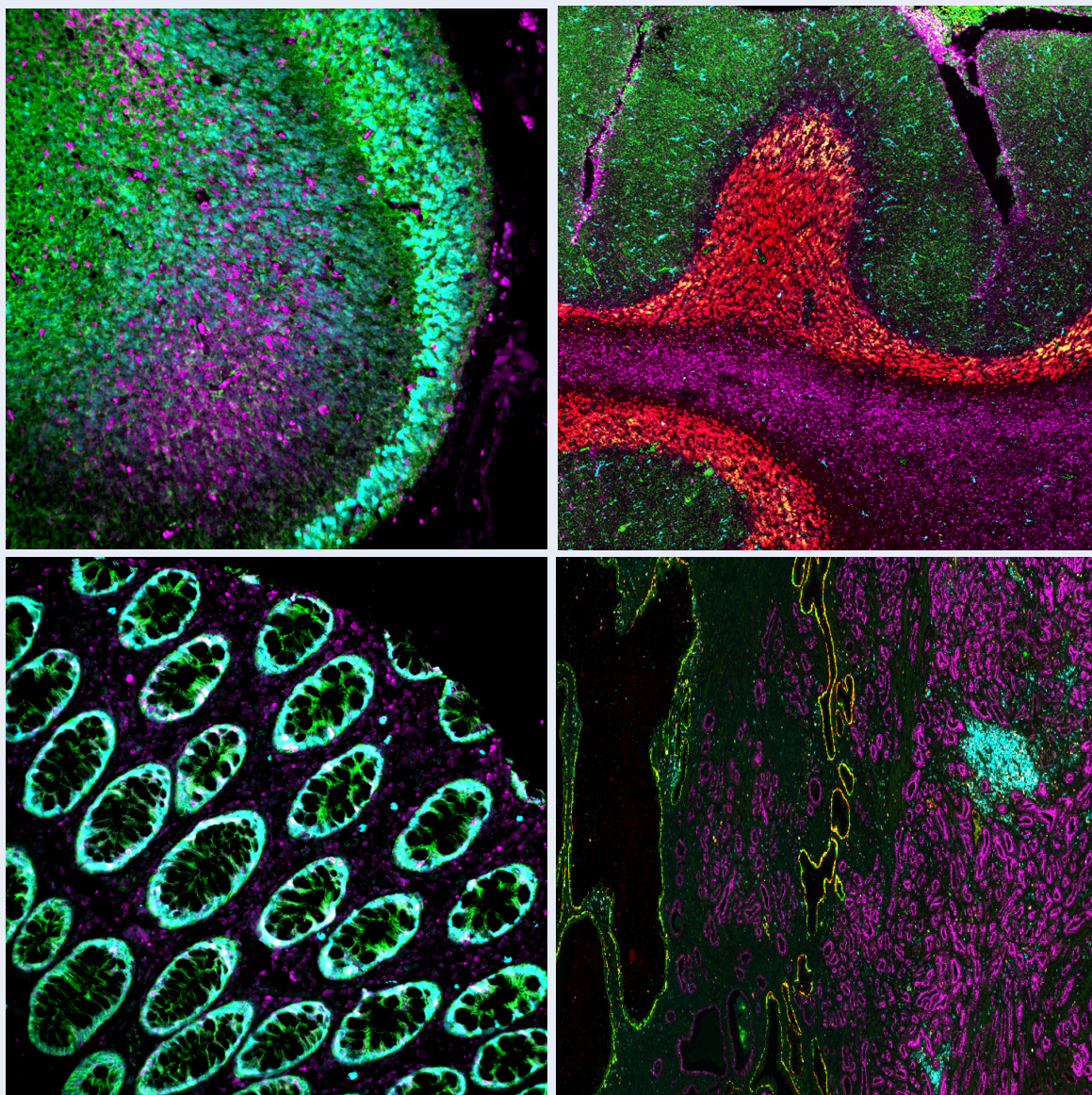


Multiplexing Made Simple



AtlasPlex:

Advanced Solution for Multiplexed IHC-IF

AtlasPlex is a complete, pre-validated ready-to-use multiplexing assay that enable multiplexed fluorescent immunohistochemistry (mIHC-IF) for FFPE tissue, allowing detection of up to 5 biomarkers per day with exceptional signal clarity.

With over 12,000 available targets AtlasPlex is powered by Atlas Antibodies, leveraging the broadest catalogue of antibodies from the Human Protein Atlas, suitable for virtually any research area.

AtlasPlex revolutionizes low plex IHC-IF by combining the sensitivity of TSA technology and the precision of highly validated antibodies with the flexibility of customizable panels.

Integration of pre-biotinylated antibodies, optimized TSA amplification, and comprehensive target library, position AtlasPlex as the ideal solution for modern multiplexed IHC-IF applications in biomedical research.

Designed for researchers who demand both simplicity and scientific rigor, AtlasPlex delivers species-independent multiplexing that accelerates discovery while reducing complexity.

Enhanced Sensitivity: TSA amplification detects low-abundance proteins

Spatial Resolution: Maintains precise localization throughout processing

Robust Signal: Permanent tyramide deposition prevents signal loss

Workflow Multiplexing Capacity: Single day completion for full 5-plex analysis

Target Library: 12,000+ validated antibodies from the Human Protein Atlas database

Standardized Quality: Pre-validated components ensure consistent results

Compatibility: Optimized for formalin-fixed, paraffin-embedded (FFPE), and fresh-frozen tissue samples

Analysis and Imaging Requirements: Standard fluorescence microscopy

Technical Innovations

Pre-Validated Antibody System

AtlasPlex utilizes pre-biotinylated primary antibodies thus eliminating the need for secondary antibodies and reducing protocol complexity. This system ensures consistent performance across diverse protein targets.

Optimized TSA Amplification

The integrated tyramide signal amplification system provides exceptional signal-to-noise ratio, enabling detection of low-abundance targets with remarkable clarity. The proprietary enzyme quenching mechanism ensures clean signal termination between multiplexing cycles.

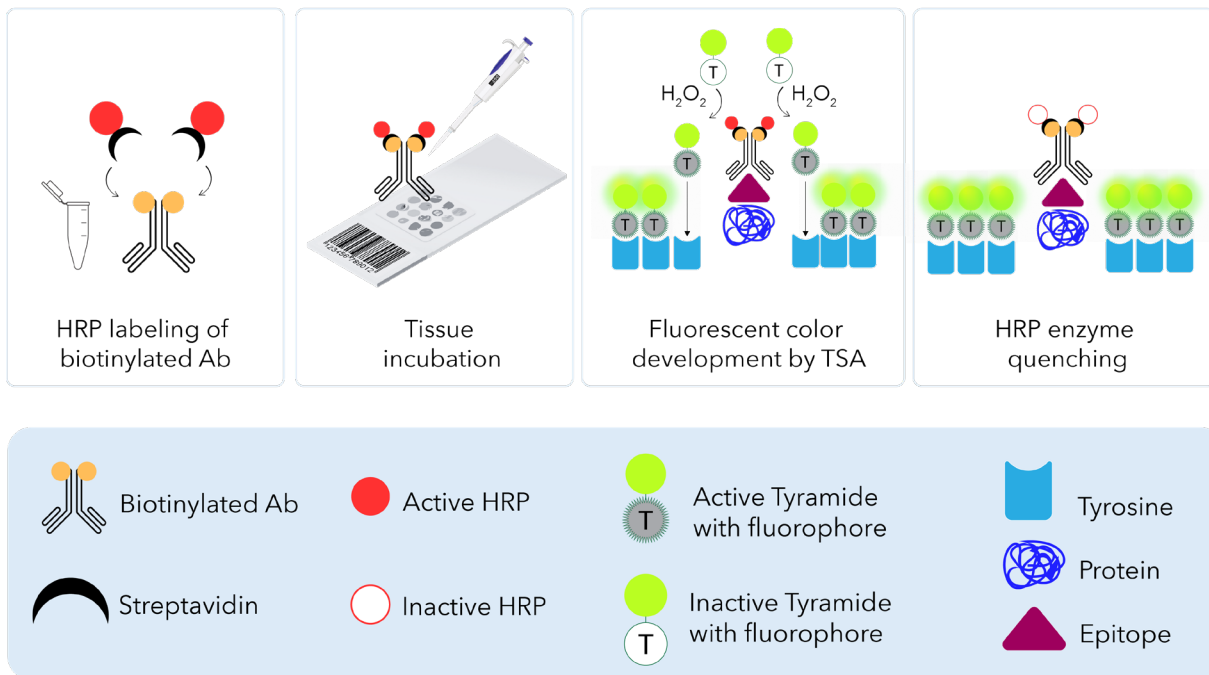
Streamlined Workflow

The complete kit includes all necessary components for 3 or 5-plex immunofluorescence, reducing setup time and eliminating the need for extensive protocol optimization.

What Makes AtlasPlex Unique?

Features		Benefits
Complete Ready-to-Use Solution	Pre-validated components	Biotin-conjugated antibodies, Tyramide dyes and TSA reagents all included
	Pre-optimized workflow	Eliminates time-consuming protocol development
	Single-day results	Complete experiments from sample to analysis in one day up to 5 plex
Unmatched Flexibility	12,000+ human gene targets	Access to the market's broadest IHC validated antibody portfolio
	Custom panel design	Free customization across the entire human proteome
	Species-independent	No secondary antibody complications
Superior Technology	TSA signal amplification	Next-level sensitivity for low-abundance proteins
	Permanent signal deposition	Maintains spatial integrity throughout processing
	Compatibility	Works with standard fluorescence microscopy platforms

AtlasPlex Technology: enzymatic TSA signal amplification

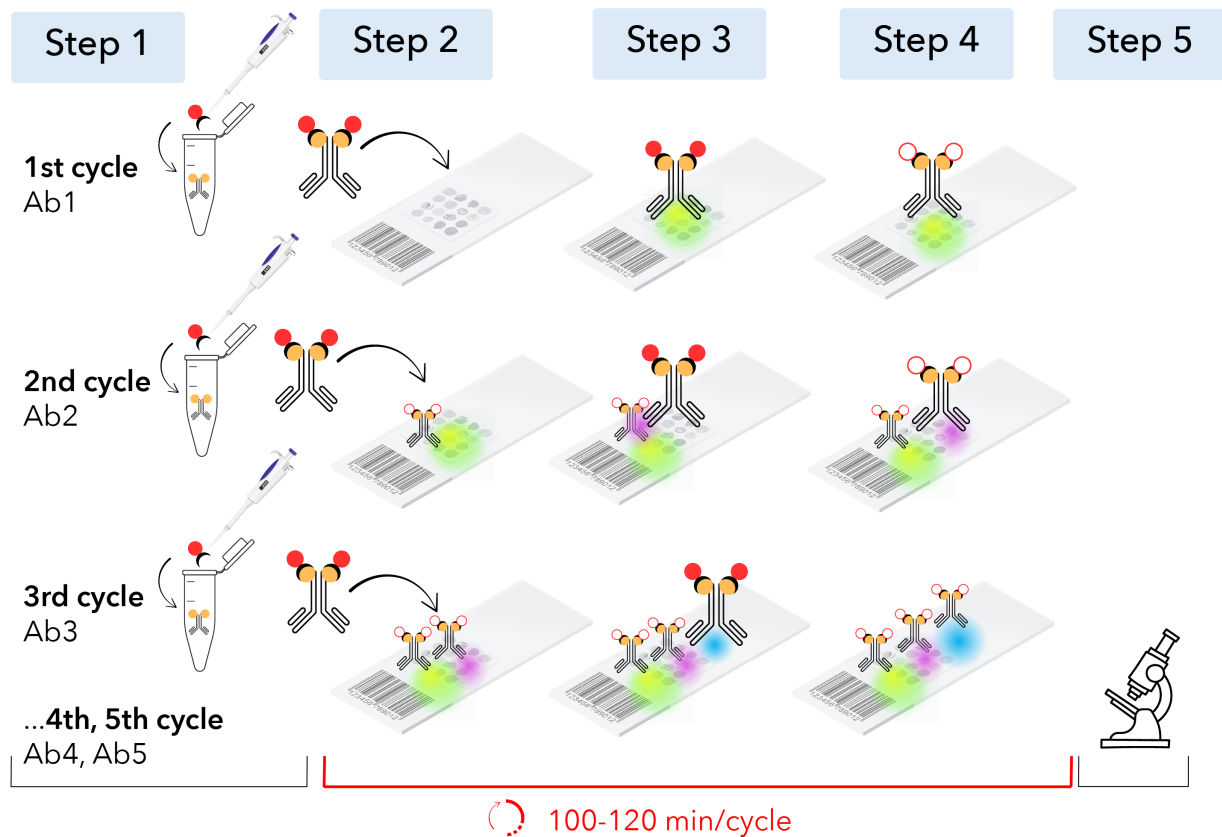


AtlasPlex is based on enzymatic TSA signal amplification to deliver robust and reproducible fluorescent detection.

In this process, a fluorophore-labeled tyramide substrate is enzymatically activated by HRP linked to the antibody. The activated tyramide forms highly reactive intermediates that covalently bind to tyrosine residues in and around the antibody binding site, producing a stable and amplified fluorescent signal. By applying the staining solution (the chosen tyramide dye and amplification buffer), researchers achieve strong, specific, and long-lasting color development, even for low-abundance protein targets.

The power of TSA lies in its ability to dramatically enhance sensitivity and resolution, enabling detection of proteins that would otherwise remain undetectable in complex tissue samples.

AtlasPlex Workflow: from sample to results in 1 day



Increase your plex without increasing complexity

AtlasPlex enables iterative multiplexed fluorescent immunohistochemistry (mIHC-IF) in FFPE tissue utilizing the following technical sequence:

(Step 1) Smart Complexing: Biotinylated primary antibody (Ab1) is pre-bound to HRP-conjugated streptavidin, setting the stage for powerful signal amplification.

(Step 2) Targeted Tissue Binding: Apply the biotinylated Ab1-HRP complex directly to your fixed tissue. Binding is precise, reliable, and reproducible.

(Step 3) Amplification: Tyramide-based signal amplification deposits a bright, permanent fluorescent signal at each target site, ensuring crisp, high-contrast images.

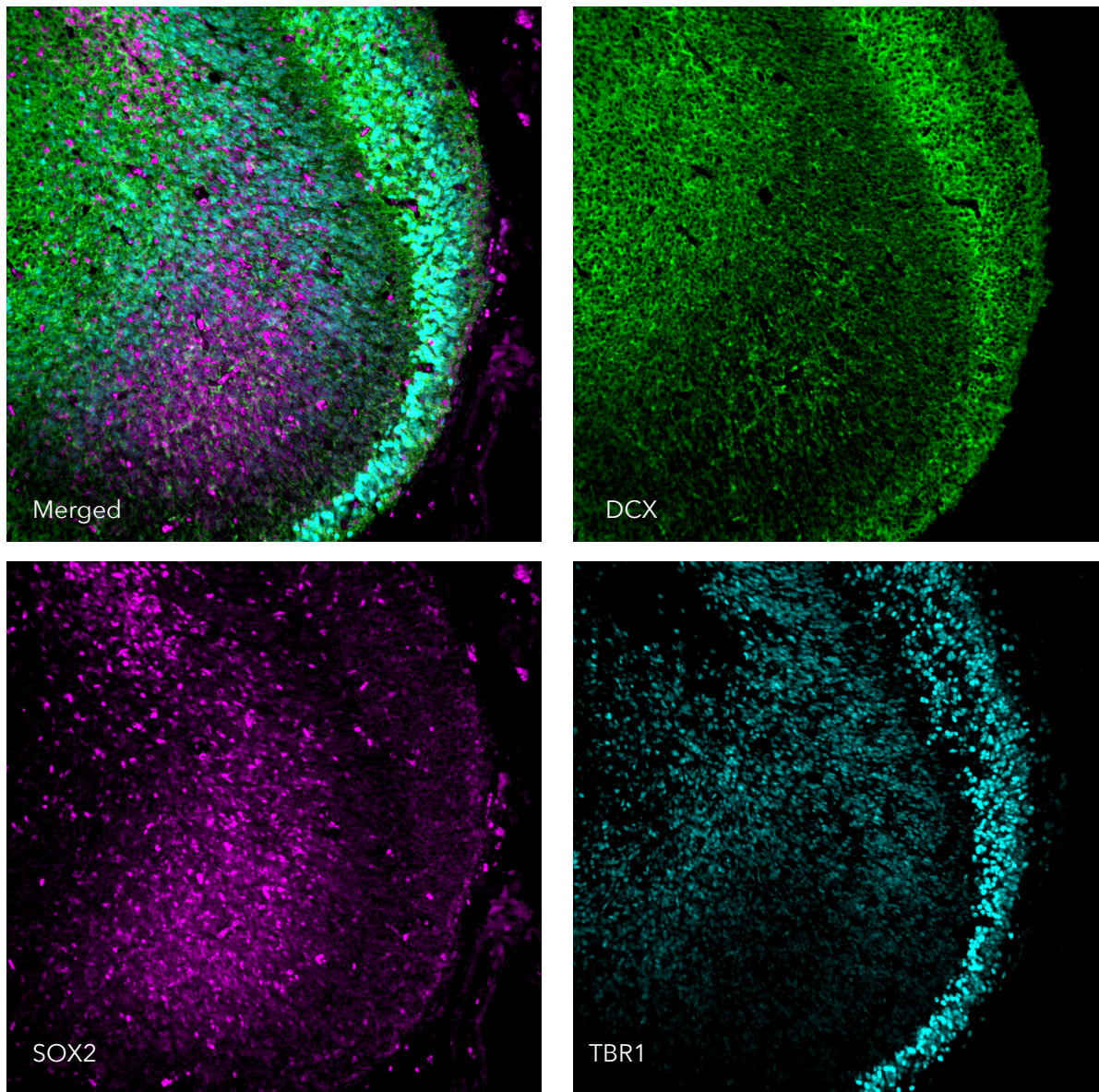
(Step 4) HRP Enzyme Quenching: Deactivate HRP quickly and completely. No interference in downstream rounds and preserved tissue morphology.

Repeat. Run multiple antibody cycles (Ab2...Ab5) with only 120 min per cycle. Up to 5-plex per day.

(Step 5) Brilliant Imaging: Capture your results using standard fluorescence microscopy. Reveal distinct biomarker landscapes with unmatched clarity.

AtlasPlex:

mIHC profiling of mouse embryo brain (E14)



(up) **Mouse Embryo Brain (E14) - Neurodevelopmental Cell-Type Profiling: AtlasPlex 3-plex mIHC showing SOX2 (neuroepithelial cells), DCX (immature neurons), and TBR1 (early-born cortical neurons) in the developing mouse brain.**

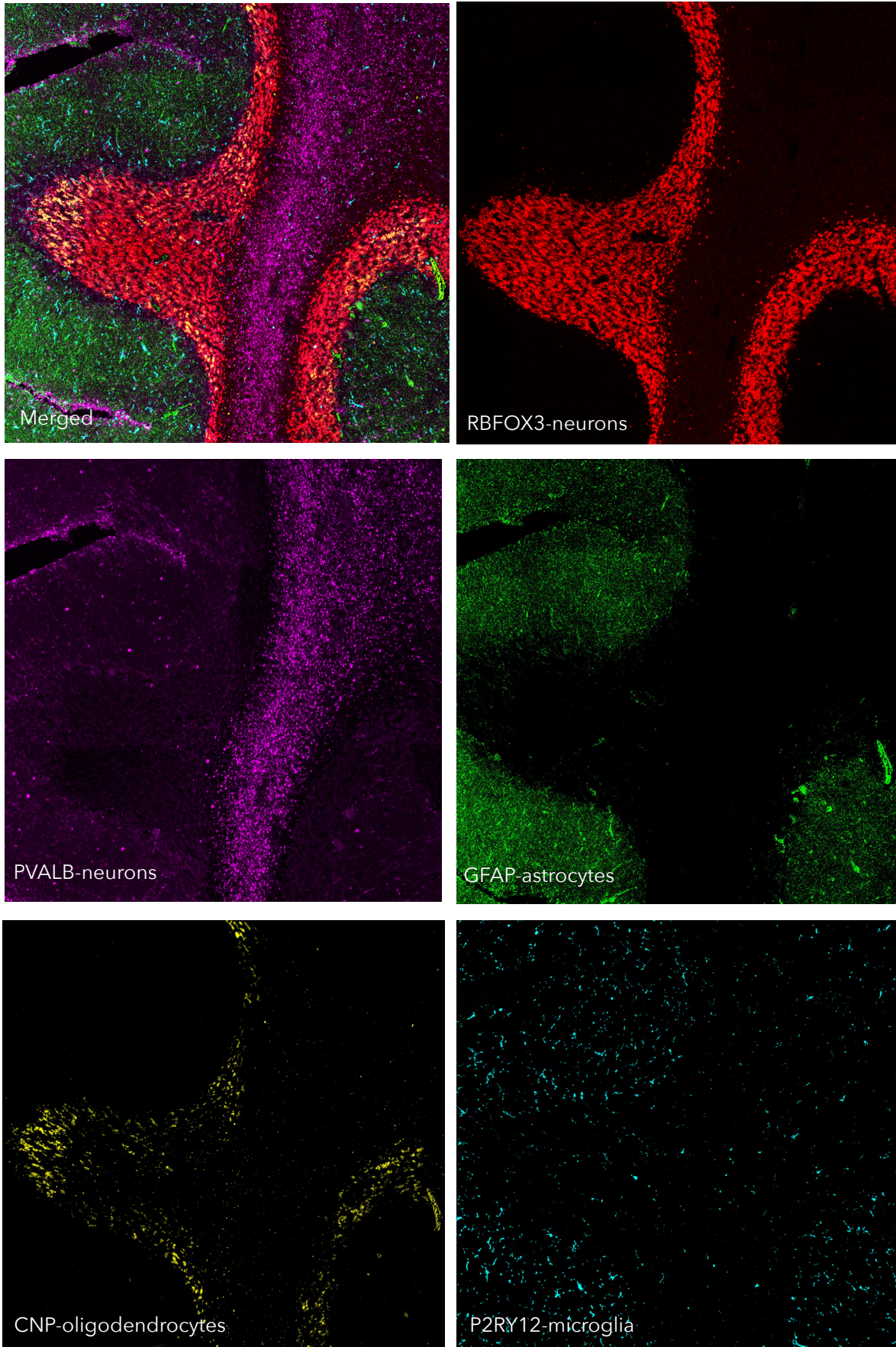
Brain development is a complex process, as includes neuro- and gliogenesis, neuronal cell maturation and migration, and establishing synaptic connections. Cell-type specific markers are a useful tool for studying nervous system development in both health and disease. Here, AtlasPlex was employed to identify neuroepithelial cells (using Anti-SOX2 antibody AMAb91307, in magenta), all immature neurons (using Anti-DCX antibody HPA036121, in green), as well as a subset of early born neurons of the cortical plate (using Anti-TBR1 antibody HPA078644, in cyan) in the developing brain of mouse embryo E14.

(right) **Neuronal and Glial Cell Mapping: AtlasPlex 5-plex mIHC highlighting neurons (RBFOX3/NEUN, PVALB), astrocytes (GFAP), oligodendrocytes (CNP), and microglia (P2RY12) in adult human cerebellum.**

The 5-plex immunofluorescence image of human cerebellum shows spatial distribution of various neuronal and glial cell types in the mature brain, including neurons (using Anti-RBFOX3/NEUN antibody HPA030790, in red and Anti-PVALB HPA048536, in magenta), astrocytes (using Anti-GFAP HPA056030 in green), oligodendrocytes (using Anti-CNP HPA023280 in yellow) and microglia (using Anti-P2RY12 HPA014518, in cyan).

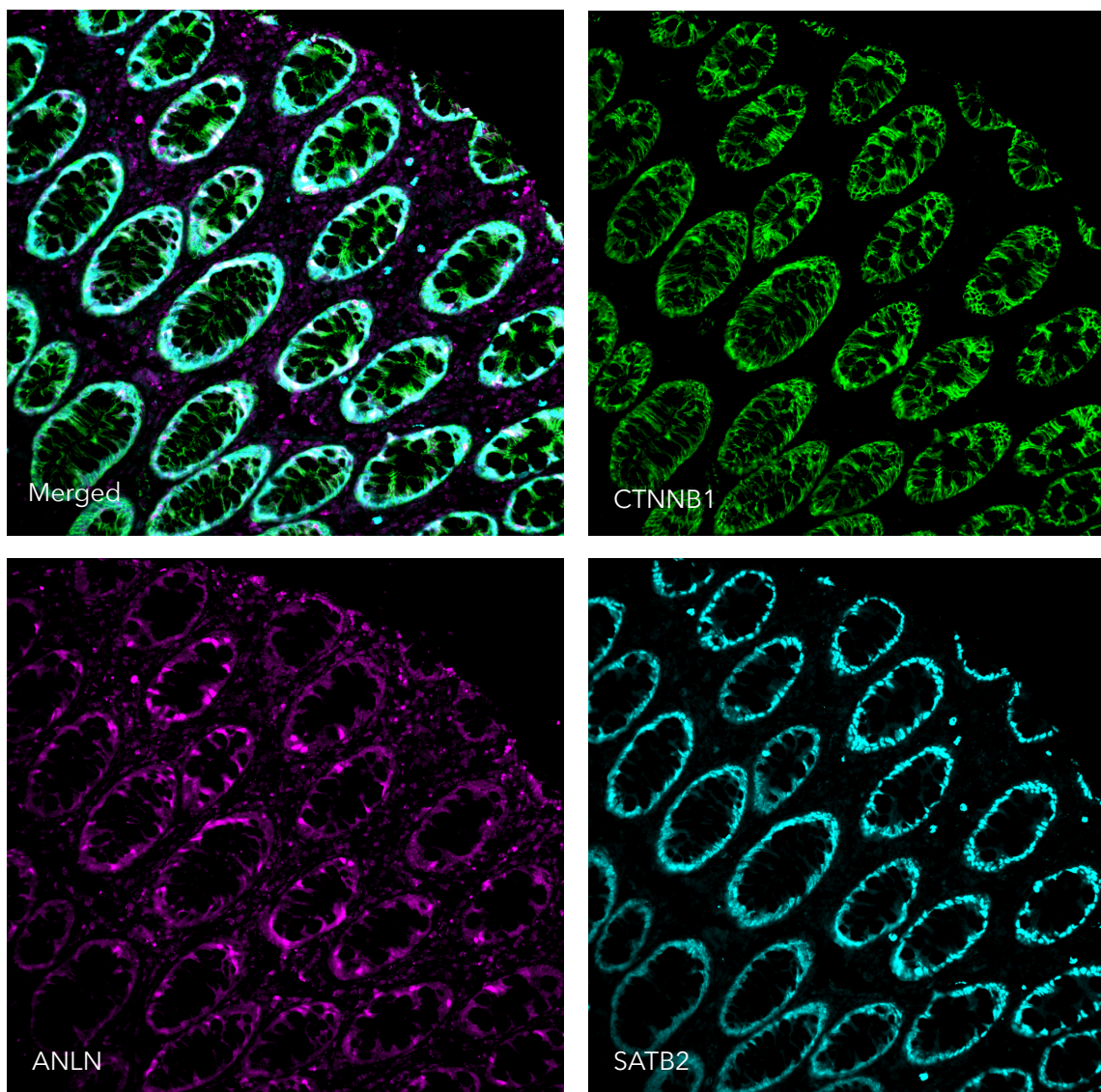
AtlasPlex:

mIHC profiling of neuronal and glial cell in human cerebellum



AtlasPlex:

mIHC profiling of human normal rectum mucosa

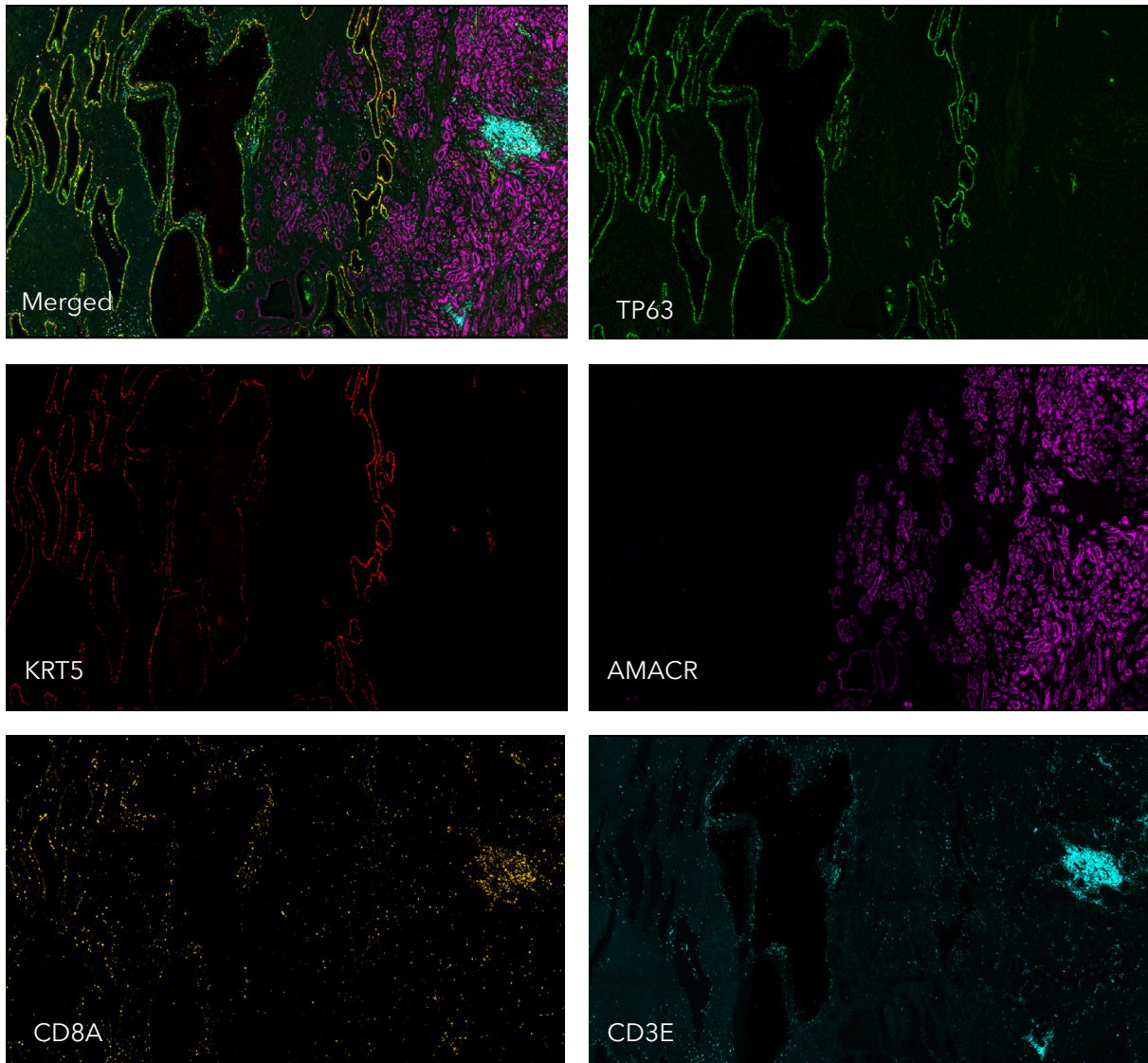


Human Normal Rectum Mucosa: AtlasPlex 3-plex mIHC visualizing CTNNB1 (membranous), SATB2 (nuclear), and ANLN (nuclear) in normal human rectal mucosa.

Protein expression in cells and tissues often changes at the transition from normal to cancer state. Protein expression levels can be used as diagnostic and prognostic biomarkers, as well as companion diagnostics for treatment selection. In addition, subcellular location of the protein can be altered in pathology. For example, CTNNB1 (β -catenin) translocation from membrane to the nucleus is a hallmark of Wnt/ β -catenin pathway activation, and it carries significant implications for tumor behavior and prognosis in cancer. In the present image, a 3-plex immunofluorescence was used to visualize protein expression in normal human rectum mucosa, including CTNNB1 (AMAb91209, membranous, green), ANLN (HPA005680, nuclear, magenta) and SATB2 (AMAb90682, nuclear, cyan).

AtlasPlex:

mIHC profiling of immune and epithelial cells in prostate cancer



Human Prostate Cancer - Immune and Epithelial Cell Interactions: AtlasPlex 5-plex mIHC illustrating immune cell infiltration (CD3E, CD8A) and epithelial markers (TP63 and KRT5 in normal glands; AMACR in tumor) in prostate cancer tissue.

Progression from normal to neoplastic state is characterized not only by changes in the epithelial cell phenotype, but also in tissue microenvironment. The 5-plex immunofluorescence image of human prostate cancer shows distribution of CD3E+ and CD8A+ positive T-cells in normal and neoplastic compartments, identified by expression of TP63 (AMAb91224, green) and KRT5 (HPA059479, red) in normal glands and AMACR (HPA019527, magenta) in tumour cells. Co-expression of CD3E (HPA043955, cyan) and CD8A (HPA037756, orange) indicate cytotoxic T-cells.

AtlasPlex Kit Specifications

Kit Type	Markers	Reactions	Ideal for
AP-S3	3 plex	25 reactions	Initial studies and pilot experiments
AP-L3	3 plex	50 reactions	Extended 3 markers analysis
AP-S5	5 plex	25 reactions	Complex phenotyping studies
AP-L5	5 plex	50 reactions	Complex phenotyping studies in multiple tissues

Streamlined Ordering with Kit Configurator

The AtlasPlex kit configurator is built for simplicity and speed. You only need to choose two things:

- Your kit size (3-plex or 5-plex)
- Your antibody targets (up to 5 from 12,000+ validated options)

All other components, i.e. TSA amplification reagents and tyramide dyes, are core inclusions.

No extra decisions, no hidden add-ons.

Just select your essentials, click "order," and your complete kit is on its way.

Build your perfect kit in 3 simple steps with the kit configurator:

Step 1: Configure

- Choose kit size (Standard or Large)
- Select plex degree (3 or 5 markers)
- Search and add gene targets from 13,000+ options

Step 2: Preview & Confirm

- Review automatically selected antibodies
- Modify targets if needed
- Confirm kit configuration

Step 3: Order

- Complete customer information
- Generate purchase order
- Receive order confirmation



Included in the Kit

Customizable:

- Up to 5 Biotinylated Antibodies

Core Components:

- HRP Labeling and Quenching Buffers
- Tyramide dyes for Color development

Not Included in the Kit

- Sample material
- DMSO
- PBS
- Wash buffers
- Antibody diluent
- Nuclear marker (eg. Hoechst, DAPI)
- Mounting medium
- Cover glasses
- Buffers for tissue preparation (deparaffinization, antigen retrieval, and dewaxing solutions), PAP pen, etc..

Research Areas & Application Examples

AtlasPlex is optimized for diverse research applications requiring comprehensive protein analysis such as:

- **Cancer Research & Immuno-Oncology**

Profile tumor microenvironments by co-localizing immune markers (for example CD8, PD-1, PD-L1) to guide immunotherapy decisions and understand immune cell infiltration patterns.

- **Neuroscience & Neurodegeneration**

Mapping neuroinflammation and protein aggregation in brain tissue using multiple neuronal and glial markers (such as GFAP, Iba1, and Tau) for Alzheimer's and other neurodegenerative disease research.

- **Autoimmune Disease Investigation**

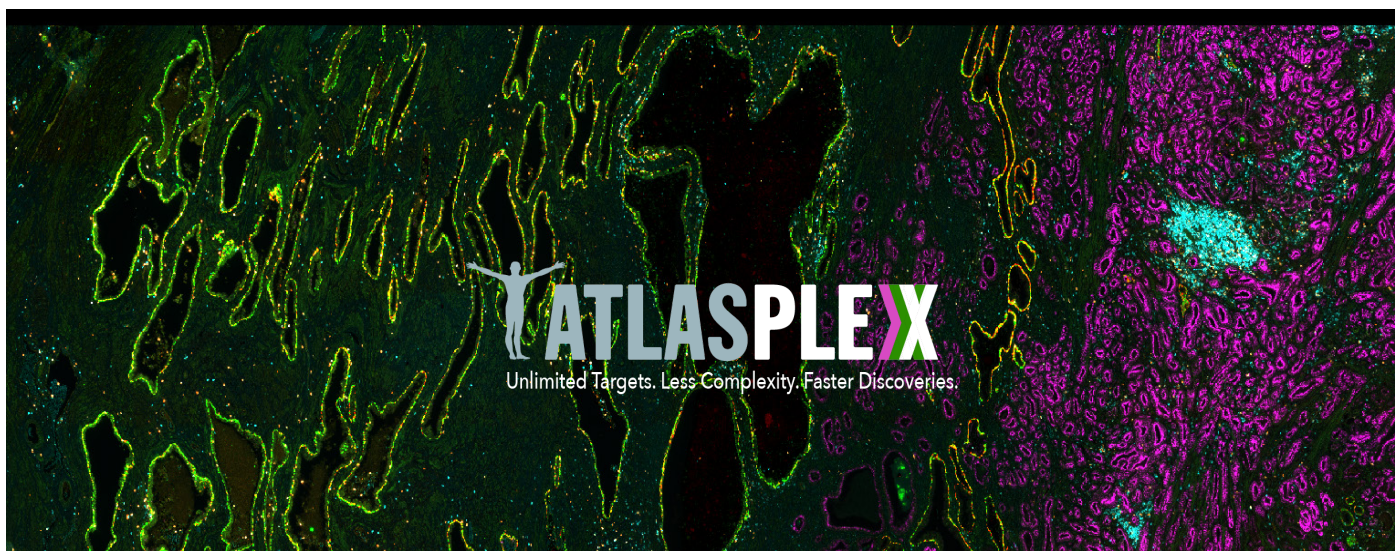
Analyze T cells, B cells, and antigen-presenting cells (such as CD3, CD20, HLA-DR) to understand immune dysregulation in conditions like systemic lupus erythematosus and rheumatoid arthritis.

- **Translational Research**

Bridge basic science and clinical applications with comprehensive tissue phenotyping that reveals cellular interactions and spatial relationships.

AtlasPlex vs Other Small Plex Alternatives

Feature	AtlasPlex	Other Plex Assays
Pre-biotinylated antibodies (12,000+ targets)	✓	✗ (limited selection)
Fully customizable panels	✓	✗ (often fixed)
High-sensitivity TSA amplification	✓	✗ (varies)
No species cross-reactivity	✓	✗
Validated on FFPE tissues	✓	✓
Requires no specialized equipment	✓	✗
Easy to implement (low training barrier)	✓	✗
Compatible with standard fluorescence microscope	✓	✓
Cost-effective for small/medium projects	✓	✗
Academic-friendly pricing & support	✓	✗



Multiplexing Made Simple

- Species-independent detection to eliminate secondary antibody limitations
- Pre-validated reagent combinations to reduce optimization time
- Standardized protocols for improved reproducibility
- Enhanced signal amplification for low-abundance targets
- Streamlined procurement through single-source solutions
- Expert support when you need it

Panel Design:

Custom kit optimization for your research needs

Troubleshooting:

Expert guidance for technical challenges

Backed by Scientific Excellence:

AtlasPlex is developed by the team originated from the Human Protein Atlas, with ongoing collaborations with leading research institutions and continuous evidence generation for new applications.

Ready to Transform Your Research?

Discover what's possible when multiplexing technology adapts to your research needs

For technical support, ordering information, and protocols, visit:
www.atlasantibodies.com