

Unleashing the full power of the sequencer

# G400RS FluoXpert

Boost Your Multi-Omics Research



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# G400RS FluoXpert

G400RS FluoXpert is a multifunctional instrument that integrates high-throughput sequencing technology and multiplex immunofluorescence technology (mIF). Given that the same equipment may be used for multiple tasks, it is suitable for a wide range of applications in tumor classifications, disease prognosis, tissue microenvironment analysis etc. With FluoXpert, you can obtain both cellular morphological information and molecular information from the exact same platform.

## Multi-Omics in One

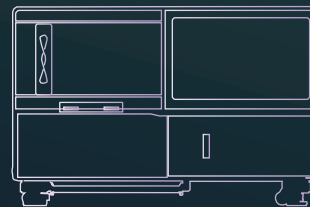
Robust Performance, Enabling Comprehensive Multi-Omics Research



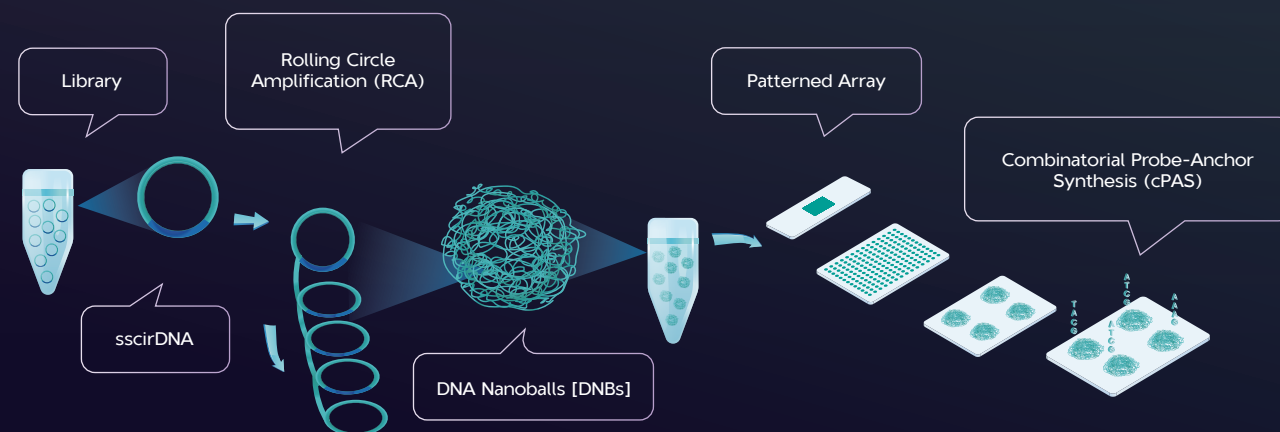
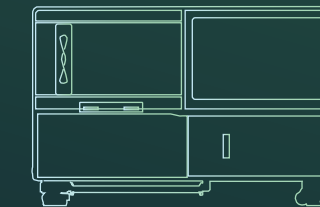
Multi-Omics Package

- FluoXpert Program
- FluoXpert Vision Analysis Solution (Optional)

Sequencing Mode



Staining Mode



### • Highly Efficient Immunofluorescence Staining Technology



Antigen Primary antibody secondary antibody

# Modular Design

Based on the design concept of systematization and modularization, G400RS FluoXpert realizes a fully automated process of fluorescence staining and high resolution scanning through the software development. FluoXpert can achieve great performance in spatial protein identification by a simple software switch, providing a strong platform for proteomics investigation.

## Hardware

- Optical lens/camera
- Mechanical module
- Fluidics
- Electrics



## Biochemistry

- FluoXpert mIF Set
  - Highly flexible, compatible with off-the-shelf antibody
  - Highly efficient but mild elution technology
  - Highly efficient autofluorescence quenching
- Standard 6-plex, 24-plex standard reagent set
  - Without the need for antibody conjugation
  - Fluorescent secondary antibody
  - Highly efficient autofluorescence quenching reagent
- Customized Support 3-24 plex customization

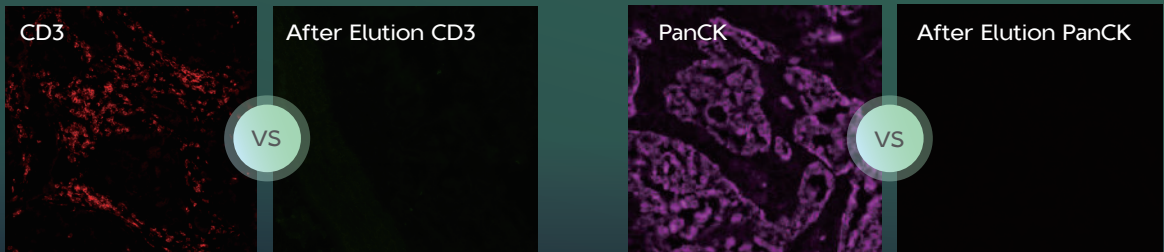
## Software

|                                                                                                                                                       |                                                                                                                                                                              |                                                                                                                                                     |                                                                                                                                 |                                                                                                                                                            |
|-------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Visualization</b> <ul style="list-style-type: none"><li>Multi-channel overlay and navigation</li><li>Interactive tools for ROI selection</li></ul> | <b>Quantification</b> <ul style="list-style-type: none"><li>Provide different cell segmentaion tools</li><li>Positive cell quantification with threshold selection</li></ul> | <b>Phenotyping</b> <ul style="list-style-type: none"><li>Colocalization of multiple markers provide visualization of different cell types</li></ul> | <b>Spatial analysis</b> <ul style="list-style-type: none"><li>Spatial neighbor analysis of different cell populations</li></ul> | <b>Registration</b> <ul style="list-style-type: none"><li>3D reconstruction of serial sections</li><li>Comparative analysis of IF and IHC images</li></ul> |
|-------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|

# Mild but Efficient Antibody Elution Suitable for Multiple Staining Cycles

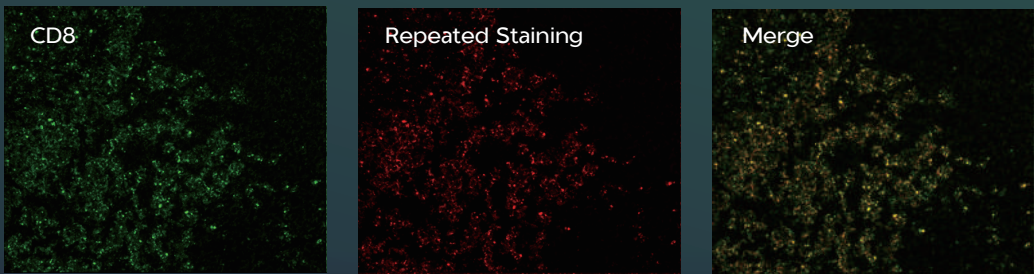
## Efficient Elution

Low residual signal



## Mild Elution

Low damage of antigen



# Seamless Stitching High-Quality Images

## High Resolution

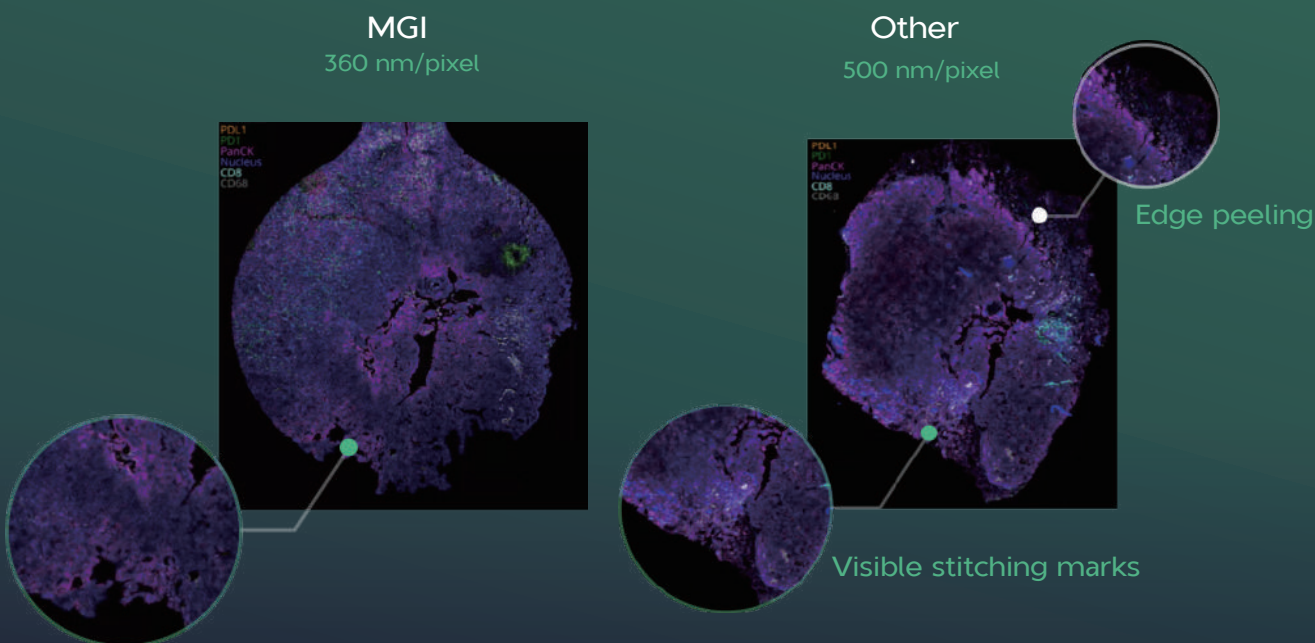
Subcellular resolution 20× (360nm/pixel)

## Robust Reproducibility

Efficient fluid exchange, mild elution reagents, tissue remains intact after multiple rounds of staining

## Seamless Stitching

High performance and seamless stitching

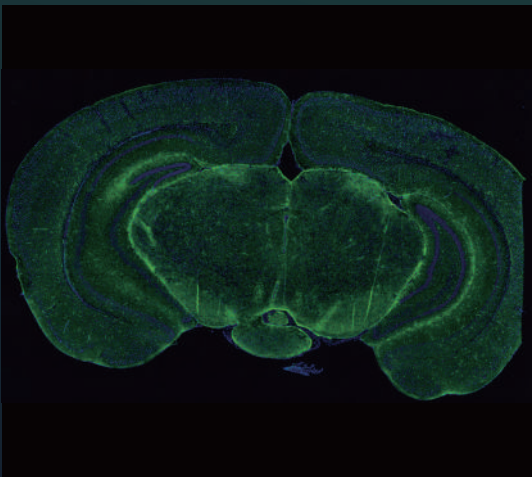


\*Images used here were mIF results of adenocarcinoma FFPE samples

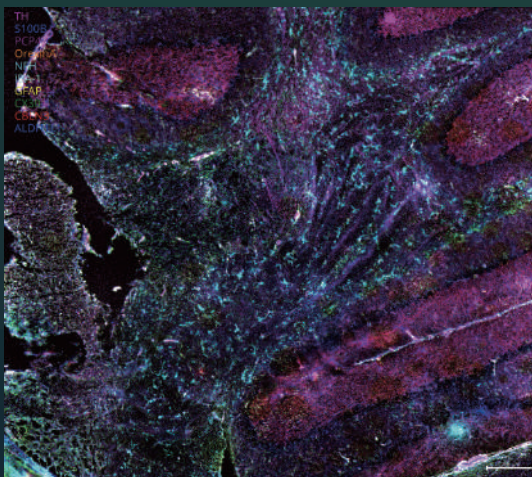
# Experimental Results

G400RS FluoXpert comes with a multiplex immunofluorescence reagent set. It is compatible with both frozen tissue and FFPE samples. It is also compatible with commercially available antibodies without a complex conjugation process. The results generated by FluoXpert showed no significant difference with the gold standard, IHC. It can be used in different fields of proteomics research.

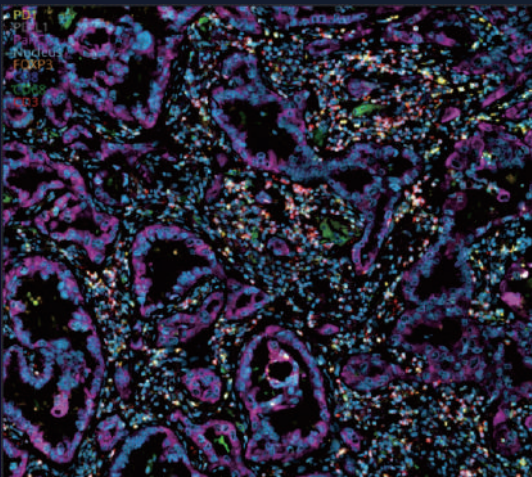
Mouse brain-FFPE section



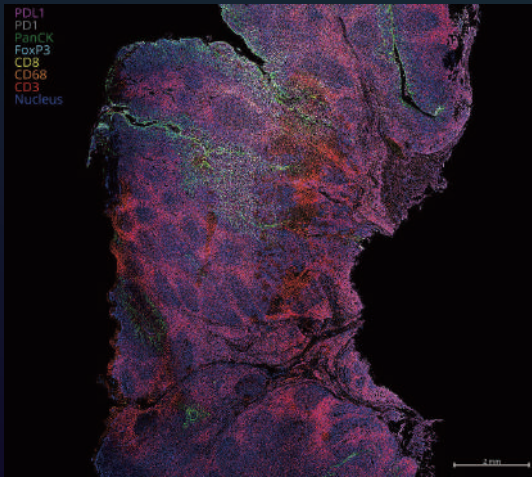
Mouse brain-frozen sample



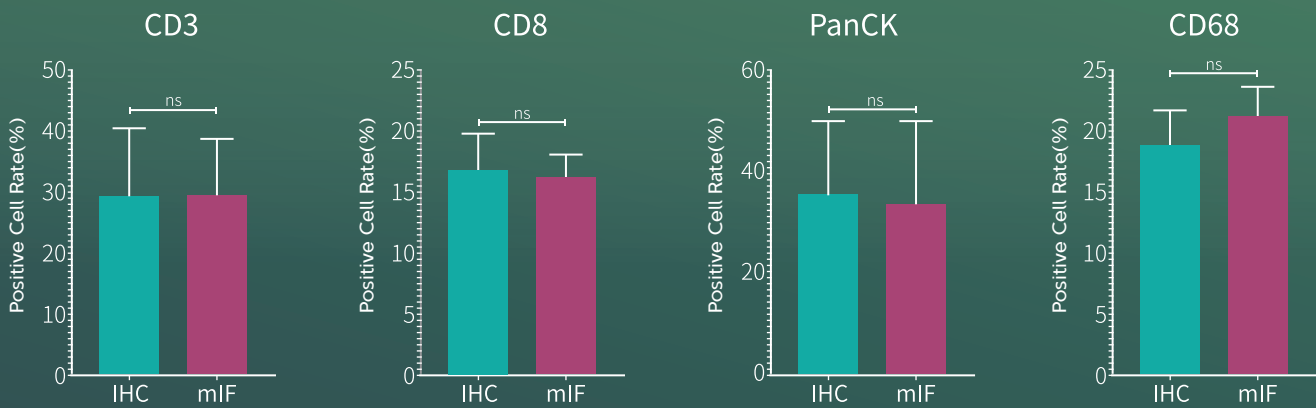
Lung adenocarcinoma-FFPE section



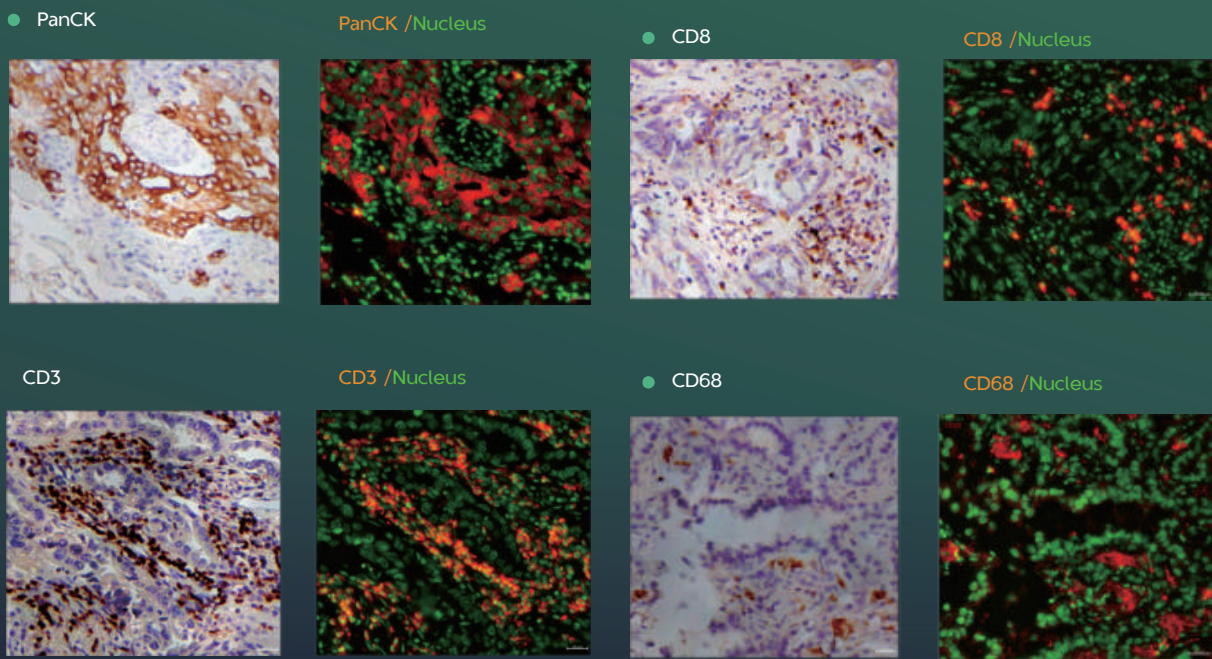
Tonsil-FFPE section



No significance is observed between mIF and the gold standard IHC



Comparison of FluoXpert and IHC staining result

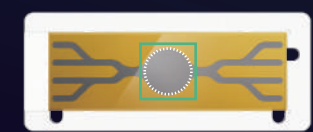


# Performance Parameters

|                                                                                            |                |                                                                                                                                                                             |
|--------------------------------------------------------------------------------------------|----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| FluoXpert™ Multiplex Immunofluorescence                                                    | Technology     | DNBSEQ™ Sequencing                                                                                                                                                          |
| SS, SL, DL                                                                                 | Flow Cells     | FCS, FCL                                                                                                                                                                    |
| Two Flow Cells/Run                                                                         | Flow Cells/Run | Two Flow Cells/Run                                                                                                                                                          |
| 20 Sections/Week (SS, SL)<br>40 Sections/Week (DL)                                         | Throughput*    | 55-180 Gb (FCS)<br>75-720 Gb (FCL)                                                                                                                                          |
| 4-5 h (6-plex)<br>10.5-12.8 h (24-plex)                                                    | Time/Run       | 31 h (FCS, PE150)<br>50 h (FCL, PE150)                                                                                                                                      |
| Compatible with FFPE and Frozen Sections                                                   | Sample Type    | DNA/RNA                                                                                                                                                                     |
| Tumor Microenvironment, Translational Research, Immune Checkpoint Blockade, Drug Screening | Applications   | Fertility Testing, Pathogen Rapid Testing, Tumor Detection, Transcriptome, WGBS, WES, WGS, Individual Screen, Genome Sequencing of Animals and Plants, Microbial Sequencing |
| FluoXpert Program<br>FluoXpert Vision Image Analysis Solution (Optional)                   | Software Suite | DNBSEQ-G400 Sequencing Program                                                                                                                                              |

\*Calculated according to standard staining kit and standard sequencing kit.

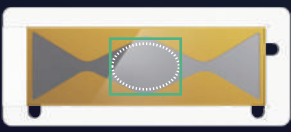
## FluoXpert Staining Flow Cell



Solo Small (SS)

Suitable for small tissue samples such as percutaneous biopsy. Even faster staining speed.

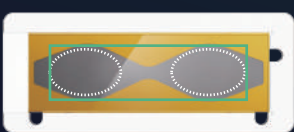
Imaging Area: 15mm\*15mm



Solo Large (SL)

Suitable for larger tissue samples such as tonsils, tumor samples. Larger scanning area for larger view.

Imaging Area: 15mm\*20mm



Dual Large (DL)

Suitable for two tissue sections on one slide. Batch staining for less reagent used.

Imaging Area: 15mm\*20mm\*2

# Ordering Information

| Category                  | Name                                         | Model                   | Format                                    | Cat. No.      |
|---------------------------|----------------------------------------------|-------------------------|-------------------------------------------|---------------|
| Instrument                | MultiOmics Analyzer                          | MGISEQ-G400RS FluoXpert | 1 instrument                              | 900-000938-00 |
| Softwares and workstation | FluoXpert Program                            | /                       | /                                         | 970-000499-00 |
|                           | FluoXpert Vision mIF Image Analysis Solution | FluoXpert Vision        | Analysis program and workstation included | 960-001637-00 |

|              |                                                         |               |                    |           |
|--------------|---------------------------------------------------------|---------------|--------------------|-----------|
| mIF Reagents | FluoXpert mIF Set (6-Plex, incl. 5 sets of Flow cells)  | 940-002132-00 | DNBSEQ-G400 SS 6P  | 5 RXN/SET |
|              |                                                         | 940-002133-00 | DNBSEQ-G400 SL 6P  | 5 RXN/SET |
|              |                                                         | 940-002134-00 | DNBSEQ-G400 DL 6P  | 5 RXN/SET |
|              | FluoXpert mIF Set (24-Plex, incl. 5 sets of Flow cells) | 940-002221-00 | DNBSEQ-G400 SS 24P | 5 RXN/SET |
|              |                                                         | 940-002219-00 | DNBSEQ-G400 SL 24P | 5 RXN/SET |
|              |                                                         | 940-002218-00 | DNBSEQ-G400 DL 24P | 5 RXN/SET |