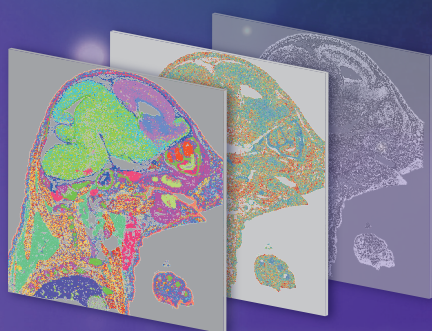


Go Spatial

Automated Sample Preparation System

Powering Stereo-seq Automation,
Accelerating Spatial Genomics Discovery



Overview

Go Spatial is MGI's dedicated automated laboratory instrument for Stereo-seq spatial transcriptomics workflows. Designed specifically for post-imaging sample preparation, it automates the full process from post-imaging to cDNA recovery, supporting both fresh-frozen (FF) and FFPE tissue types. As a sequencing-based platform, Go Spatial brings the full depth of Stereo-seq's biological insight to production scale.

Key Highlights



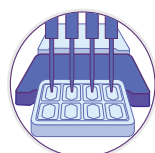
Full Process Automation

Achieves a breakthrough in automating the process from post-imaging to cDNA recovery. Greatly reduces manual operation steps, lowers operational complexity, and minimises the risk of human error.



Easy to Operate

User-friendly graphical control software enables operators to get started after simple training. An intuitive human-computer interaction platform streamlines every step.



Reliable & Robust

Independent 8-channel pipetting with individual control modes ensures high precision, high repeatability, and effectively reduces batch-to-batch variation.



Flexible Throughput

FF workflow: 2–12 chips per run (up to 12 cm²). FFPE workflow: 2–8 chips per run (up to 8 cm²). Scalable to meet diverse experimental needs.

Throughput & Annual Processing Capacity

12

FF: max chips/run
6 slides × 2 chips

8

FFPE: max chips/run
4 slides × 2 chips

~1,200
chips/yr

Est. FFPE annual capacity
50 wk × 3 runs/wk × 8 chips

Annual capacity estimates are based on full-workflow scheduling validated by MGI R&D, assuming 50 working weeks/year; 1 chip = 1 cm × 1 cm capture area. FF (tissues with unknown permeabilization time): 1 run/week, including permeabilization optimization and upstream manual steps. FFPE: 3-day cycle per run, staggered scheduling enabling 3 runs/week. FF (tissues with known permeabilization time): staggered scheduling enables 3 runs/week. All figures assume 1 technician. Actual capacity will vary by laboratory workflow and scheduling.

Efficiency & Labour Advantage

Go Spatial significantly reduces the technician time required per experiment. All figures below are based on 1 technician and validated by MGI R&D.

	FF (unknown permeabilization time)	FF (known permeabilization time)	FFPE
Max chips/run	12	12	8
Go Spatial chips/week	12	36	24
vs. Manual	Up to 6 – 2×	Up to 12 – 3×	Up to 6 – 4×
Estimated chips/year	~600	~1,800	~1,200
Example project timeline	/	~3 weeks vs. ~10 weeks manually (3× faster)	/

- **Hands-on time required (FFPE):**

~1.5 days vs. ~5 days manually – a 70% reduction. Total FFPE experiment duration is ~3 days; the remaining time the instrument runs unattended. 1 technician assumed throughout.

- **FF (known permeabilization time):**

The permeabilization time has been determined for this tissue type. For tissues with unknown permeabilization times, an optimization step is required; see FF (unknown permeabilization time).

Validated Performance Data

Go Spatial has been rigorously benchmarked against manual methods and across multiple instruments. Results consistently demonstrate exceptional concordance with manual workflows and outstanding intra-batch and inter-batch reproducibility.

99.9%

Consistency vs. Manual
Mouse thymus (Pearson R)

>0.998

Intra-batch Stability
Pearson R, same instrument

>0.98

Inter-batch Stability
Pearson R, across instruments

CV < 2%

Pipette Precision
5–50 µL range

Consistency with Manual Results

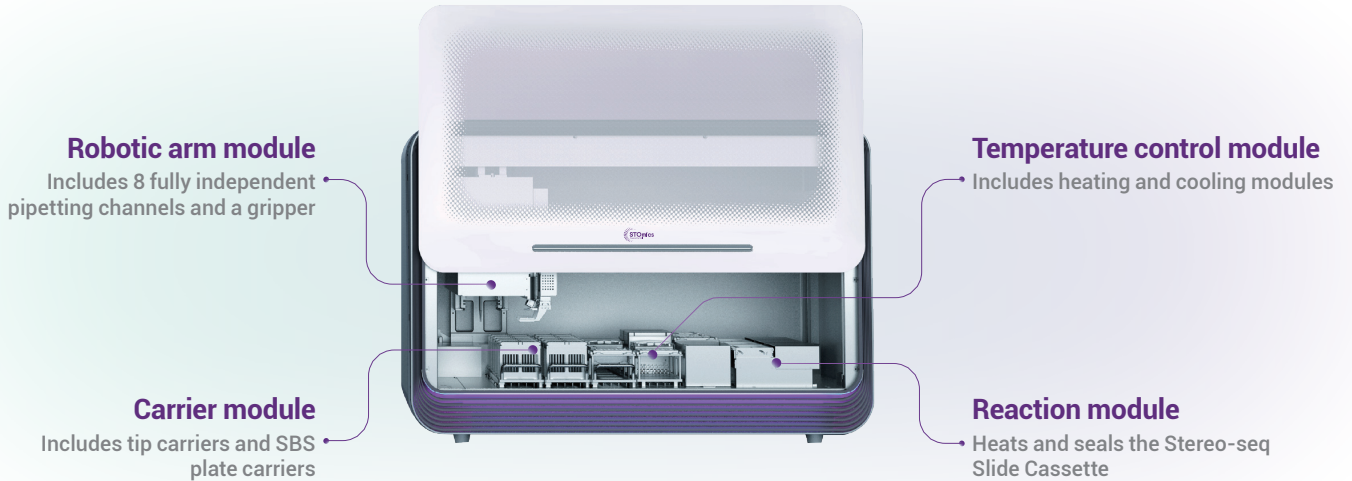
- Spatial clustering patterns and gene expression profiles across four mouse tissue types (testis, liver, thymus, brain) are virtually indistinguishable between manual and Go Spatial runs.
- Mouse thymus consistency: Pearson Correlation R = 0.999 (Go Spatial vs. Manual). Comparable QC metrics (MID count, gene count, duplication rate, and tissue coverage [Fraction MID in spots under tissue]) were observed across all four mouse tissue types.

Workflow Overview

	FF V1.3	FFPE V1.1
Total automated time	~5.5 hours (12 chips)	~15.5 hours (8 chips)
Max throughput/run	12 chips (6 slides × 2 chips)	8 chips (4 slides × 2 chips)
Min throughput/run	2 chips (1 slide × 2 chips)	2 chips (1 slide × 2 chips)
Steps automated by Go Spatial	Permeabilization > Reverse Transcription > cDNA release & collection	Decrosslinking > Fixation > Permeabilization > FFPE Mix > cDNA release & collection
Manual steps	Sectioning & mounting, Fixation, Staining & imaging, cDNA Denaturation, cDNA Amplification & Purification	Sectioning & mounting, Staining & imaging, Dewaxing, cDNA Amplification & Purification
Key equipment	Go Optical (tissue imaging) > Go Spatial (automated sample prep) > MGISP-100 (automated library prep) > DNBSEQ-T7 (high-throughput sequencing)	Go Optical (tissue imaging) > Go Spatial (automated sample prep) > MGISP-100 (automated library prep) > DNBSEQ-T7 (high-throughput sequencing)

Instrument Modules

The Go Spatial operation deck integrates all functional modules required for end-to-end automated sample preparation:



Module	Description
Operation platform	Includes operation deck, structural frame, enclosure, and electric control system
Block Cover Position	Stores block covers for cassette operations

Technical Specifications

Parameter	Specification
Compatible Workflows	FF V1.3 & FFPE V1.1
FF Throughput	Min 2 RXN/run – Max 12 RXN/run (6 slides × 2 chips)
FFPE Throughput	Min 2 RXN/run – Max 8 RXN/run (4 slides × 2 chips)
Pipette Range	5 µL – 1,000 µL
Pipette Accuracy (5–50 µL)	CV < 2%; accuracy ±5%
Pipette Accuracy (50–1,000 µL)	CV < 1%; accuracy ±2%
Pipette Accuracy (1,000 µL)	CV < 1%; accuracy ±1%
Main Unit Dimensions	1,450 mm (L) × 812 mm (W) × 918 mm (H) / 57.1 in (L) × 32.0 in (W) × 36.1 in (H) (excl. supporting feet)
Main Unit Weight	Approx. 220 kg / 485 lb (structural frame only)

Parameter	Specification
Supply Voltage (Main Unit)	200–240 V~, 50/60 Hz; Rated Power: 500 VA
External Electrical Box	5504 mm (W) × 352 mm (D) × 164 mm (H) / 19.8 in (W) × 13.9 in (D) × 6.5 in (H); ~10 kg / ~22 lb; 200–240 V~; 1,500 VA
Operating Temperature	15°C to 25°C (59°F to 86°F)
Operating Humidity	20%–80%, non-condensing
Operating Atmospheric Pressure	80 kPa to 106 kPa
Lab Bench Load-Bearing Capacity	400 kg/m ²
Regulatory	RUO – CE, UKCA, EAC, NRTL
Cat. No.	900-000985-00
Model	Go Spatial-V2-24

Compatible Reagent Kits

For Stereo-seq Fresh Frozen Samples (Stereo-seq FF V1.3)

Stereo-seq Transcriptomics Set V1.3 for Go Spatial (Cat. No.: 411ST13114 / 411ST13114-CG)

Component	Cat. No.	Specification	Kit Ver.
Stereo-seq Transcriptomics T Kit	411KT13114 / 411KT13114-CG	4 RXN/kit × 1	V1.3
Stereo-seq Chip T Slide (1cm×1cm)-Dual	410CT13114 / 410CT13114-CG	4 EA/kit × 1	V1.3
STOmics Accessory Kit – FF V1.3 Go Spatial	310AK006 / 310AK006-CG	6 PCs/kit × 1	V3

* Items with "-CG" are for US region only.

For Stereo-seq FFPE Samples (Stereo-seq OMNI FFPE V1.1)

Stereo-seq OMNI Transcriptomics FFPE Set V1.1 for Go Spatial (Cat. No.: 411SN11114 / 411SN11114-CG)

Component	Cat. No.	Specification	Kit Ver.
Stereo-seq Transcriptomics N Kit	411KN11114 / 411KN11114-CG	4 RXN/kit × 1	V1.1
Stereo-seq Chip N Slide (1cm×1cm)-Dual	410CN11114 / 410CN11114-CG	4 EA/kit × 1	V1.1
STOmics Accessory Kit – FFPE V1.1 Go Spatial	310AK007 / 310AK007-CG	8 PCs/kit × 1	V3

* Items with "-CG" are for US region only.



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