

Ion ReproSeq PGS Kits for the Ion GeneStudio S5 System

Simple and scalable next-generation sequencing workflow for aneuploidy analysis



A rapid, cost-effective, and scalable next-generation sequencing (NGS) solution for aneuploidy analysis on the Ion GeneStudio S5 System

Ion ReproSeq™ PGS Kits for the Ion GeneStudio™ S5™ System enable rapid and affordable detection of aneuploidies across all 24 chromosomes (22 autosomes and the X and Y chromosomes) for laboratories interested in reliably assessing preimplantation embryo biopsy samples for research (Figure 1). With just 6 pg of DNA from a single cell, or input from multiple cells, these kits help provide accurate detection of whole-chromosome and chromosome-arm events in as little as 9.6 hours.* The simple cartridge-loaded reagents and straightforward user interface of the Ion GeneStudio S5 System, with automated template preparation on the Ion Chef™ System, help minimize user errors and facilitate rapid adoption of preimplantation genetic screening (PGS) research. Three Ion Torrent™ sequencing chips—the Ion 510™ Chip, Ion 520™ Chip, and Ion 530™ Chip—provide throughput flexibility to match your needs and enable cost-effective analysis of 16, 24, or 96 samples per run, respectively.

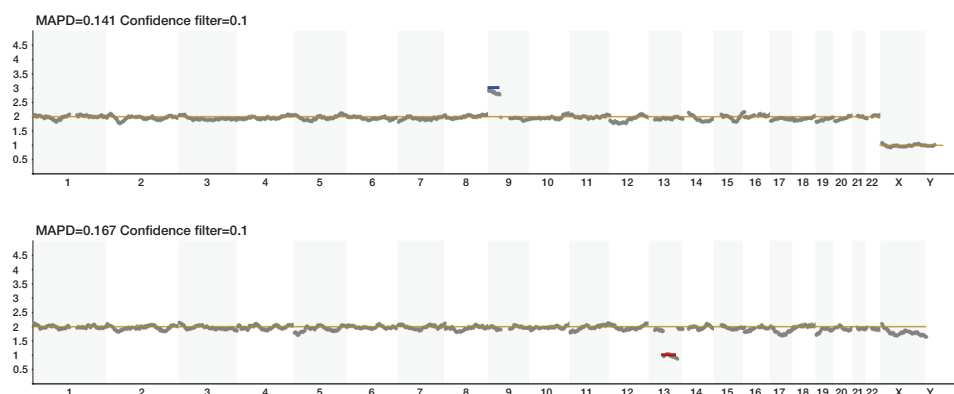


Figure 1. Aneuploidy detection from a single cell using an Ion ReproSeq PGS Kit for the Ion GeneStudio S5 System and Ion Reporter™ Software v5.4. The top panel illustrates a deviation (blue) from baseline, indicating a 45 Mb duplication of chromosome 9 in a male sample. The bottom panel indicates a deletion (red) of 48 Mb on chromosome 13 in a female sample.

Scalable sample throughput—analyze 16, 24, or 96 samples per run using the same sequencing system and workflow

Rapid workflow—go from cells to results in as little as 9.6 hours*

Simple, end-to-end workflow using the Ion GeneStudio S5 System—helps minimize user errors

Enhanced interpretation of results—mosaicism detection and gender masking, plus improved data plotting for easier interpretation

* Turnaround time from sample to analyzed results for the Ion ReproSeq PGS Kit with Ion 510 Chips (16 samples/run) is ~9.6 hours on the Ion GeneStudio S5 Plus System.

Cost-effective workflow that scales to your throughput needs

The Ion ReproSeq PGS Kits, along with the Ion GeneStudio S5 and Ion Chef Systems, deliver scalability and flexibility for various levels of sample throughput. Choose the kit that fits your throughput needs from a range of three sequencing chips to process between 16 and 96 samples. This throughput flexibility for scaling up helps improve cost efficiencies and enables laboratories to respond to sample volume fluctuations.

Rapid turnaround for time-sensitive samples

Leveraging the speed of semiconductor sequencing and advances in template preparation on the Ion Chef System, Ion ReproSeq PGS Kits for the Ion GeneStudio S5 System offer a flexible benchtop NGS workflow for rapid aneuploidy analysis (Figures 2 and 3). Go from a single cell or multiple cells isolated from a preimplantation embryo to analyzed data in as little as 9.6 hours when assaying up to 16 samples, or 13 hours for up to 96 samples. This rapid turnaround time enables fast identification of chromosomally normal embryos.

Enhanced interpretation of results

Ion Reporter Software makes analyzing and reporting aneuploidy results simple and fast. Ion ReproSeq PGS Kits benefit from new functionalities of Ion Reporter Software v5.4 such as specific workflows for mosaicism detection and gender masking, plus improved data plotting for easier data interpretation.

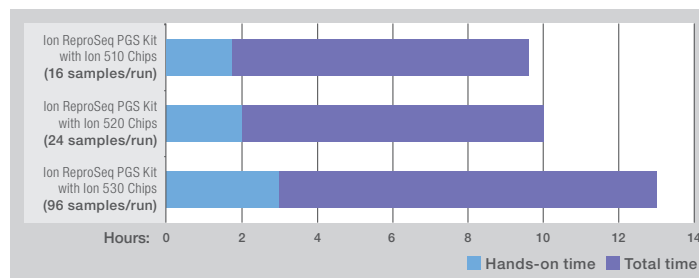


Figure 2. Rapid total turnaround time for complete aneuploidy analysis using the Ion ReproSeq PGS Kits for the Ion GeneStudio S5 System. The comparisons are for the three Ion ReproSeq PGS Kits using the Ion GeneStudio S5 Plus System with their respective Ion chips and throughput as shown.

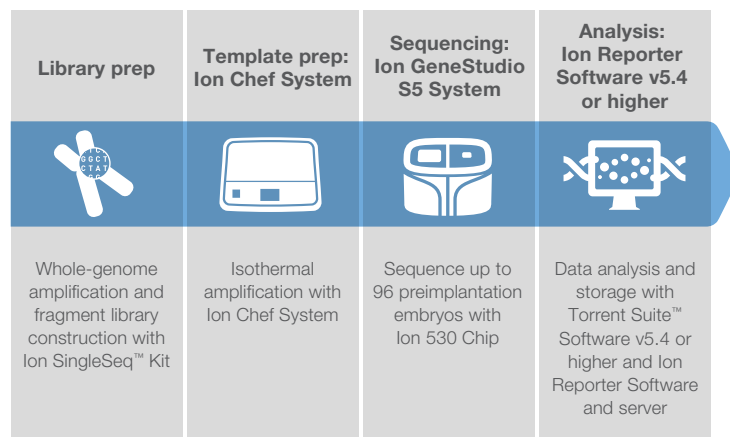


Figure 3. Rapid workflow using Ion ReproSeq PGS Kits from a single cell to aneuploidy detection. Ion ReproSeq PGS Kits for the Ion GeneStudio S5 System include all materials for library construction, template preparation, and sequencing for the Ion GeneStudio S5 System workflow.

Ordering information

Product	Quantity	Cat. No.
Ion ReproSeq PGS Kit with Ion 510 Chips	16 samples/run	A34899
Ion ReproSeq PGS Kit with Ion 520 Chips	24 samples/run	A34900
Ion ReproSeq PGS Kit with Ion 530 Chips	96 samples/run	A34901
Ion ReproSeq PGS Training (automated or manual)	2 or 2.5 days	A31276

Find out more at thermofisher.com/ionreproseq