

Ion ReproSeq™ PGS Kits – Ion S5™/Ion GeneStudio™ S5 Systems

Catalog Numbers A34899, A34900, A34901

Pub. No. MAN0016714 Rev. C.0

Note: For safety and biohazard guidelines, see the “Safety” appendix in the following product documentation: *Ion ReproSeq™ PGS Kits – Ion S5™/Ion GeneStudio™ S5 Systems User Guide* (Pub. No. MAN0016712). Read the Safety Data Sheets (SDSs) and follow the handling instructions. Wear appropriate protective eyewear, clothing, and gloves.

Product description

The Ion ReproSeq™ PGS Kits – Ion S5™/Ion GeneStudio™ S5 Systems provide reagents and materials for high-throughput whole-genome amplification and sequencing to detect chromosomal aneuploidies, chromosome arm events (>48 Mbp), and copy number variations starting from a single cell. The kits are used with the Ion Chef™ System, and the Ion S5™/Ion S5™ XL System or one of the Ion GeneStudio™ S5 Systems, which enable automated template preparation, chip loading, and sequencing to minimize hands-on time.

The Ion SingleSeq™ Kit, a component of each Ion ReproSeq™ PGS Kit, includes reagents to extract, amplify, and barcode genomic DNA for preparing libraries from up to 24 or 96 samples. The Ion ReproSeq™ PGS Kits also include reagents to prepare templates and load four chips on the Ion Chef™ Instrument, and sequence the chips on an Ion S5™/Ion S5™ XL Sequencer or one of the Ion GeneStudio™ S5 Series Sequencers. Depending on the kit that is used, up to 384 samples can be sequenced per kit.

Kit configurations

Ion ReproSeq™ PGS Kit	Amount per kit	Samples per kit
Ion ReproSeq™ PGS Kit with Ion 510™ Chips (16 samples/run); Cat. No. A34899		
Ion SingleSeq™ Kit (24 reactions)	3 boxes	64
Ion S5™ ExT Chef Supplies	4 boxes	
Ion S5™ Chef Solutions	4 cartridges	
Ion S5™ ExT Chef PGS Reagents	4 cartridges	
Ion S5™ ExT Sequencing Solutions	1 box	
Ion S5™ ExT Sequencing Reagents	4 cartridges	
Ion 510™ Chip Kit	4 chips	
Ion ReproSeq™ PGS Kit with Ion 520™ Chips (24 samples/run); Cat. No. A34900		
Ion SingleSeq™ 96 Kit (96 reactions)	1 x 2 boxes	96
Ion S5™ ExT Chef Supplies	4 boxes	
Ion S5™ Chef Solutions	4 cartridges	
Ion S5™ ExT Chef PGS Reagents	4 cartridges	
Ion S5™ ExT Sequencing Solutions	1 box	
Ion S5™ ExT Sequencing Reagents	4 cartridges	
Ion 520™ Chip Kit	4 chips	

Ion ReproSeq™ PGS Kit	Amount per kit	Samples per kit
Ion ReproSeq™ PGS Kit with Ion 530™ Chips (96 samples/run); Cat. No. A34901		
Ion SingleSeq™ 96 Kit (96 reactions)	4 x 2 boxes	384
Ion S5™ ExT Chef Supplies	4 boxes	
Ion S5™ Chef Solutions	4 cartridges	
Ion S5™ ExT Chef PGS Reagents	4 cartridges	
Ion S5™ ExT Sequencing Solutions	1 box	
Ion S5™ ExT Sequencing Reagents	4 cartridges	
Ion 530™ Chip Kit	4 chips	

Kit contents and storage

Ion SingleSeq™ Kit

Use the Ion SingleSeq™ Kit (Part No. A28955; 24 reactions/kit) to extract, amplify, and barcode genomic DNA. Immediately before use, thaw tubes on ice if needed.

Component	Amount	Storage
Cell Extraction Buffer (green cap)	120 µL	–30°C to –10°C
Extraction Enzyme Dilution Buffer (violet cap)	115.2 µL	
Cell Extraction Enzyme (yellow cap)	4.8 µL	
Pre-Amplification Buffer (red cap)	115.2 µL	
Pre-Amplification Enzyme (white cap)	4.8 µL	
Amplification Buffer (orange cap)	648 µL	
Amplification Enzyme (blue cap)	12 µL	
Nuclease-free Water (clear cap)	432 µL	
Barcode Plate (Ion SingleSeq™ Barcode Adapters loaded in wells A1–H3 or wells A1–H12)	1 plate; 5 µL/well (Barcodes 1–24)	

Use the Ion SingleSeq™ 96 Kit (Part No. A34763; 96 reactions/kit) to extract, amplify, and barcode genomic DNA. Immediately before use, thaw tubes on ice if needed.

Component	Amount	Storage
Ion SingleSeq™ Reagents (Part. No. A52555)		
Cell Extraction Buffer (green cap)	480 µL	–25°C to –15°C
Extraction Enzyme Dilution Buffer (violet cap)	460.8 µL	
Cell Extraction Enzyme (yellow cap)	19.2 µL	
Pre-Amplification Buffer (red cap)	460.8 µL	
Pre-Amplification Enzyme (white cap)	19.2 µL	
Amplification Buffer (orange cap)	3 × 864 µL	
Amplification Enzyme (blue cap)	48 µL	
Nuclease-free Water (clear cap)	432 µL	
Ion SingleSeq™ Barcode Plate Set 1-96 (Part. No. A52556)		
Barcode Plate (Ion SingleSeq™ Barcode Adapters loaded in wells A1–H3 or wells A1–H12)	1 plate; 5 µL/well (Barcodes 1–96)	–25°C to –15°C

Ion S5™ ExT Kit components

Contents	Amount/box	Storage
Ion S5™ ExT Chef Supplies (Part No. A30673)		
Chip Adapter	1	15°C to 30°C
Enrichment Cartridge v2	1	
Ion S5™ ExT Tip Cartridge	1	
PCR Plate	1	
PCR Plate Frame	1	
Frame Seal v2	1	
Recovery Station Disposable Lid v2	2	
Recovery Tube	12	
Ion S5™ Chef Solutions (Part No. A27754)		
Ion S5™ Chef Solutions	4 cartridges	15°C to 30°C
Ion S5™ ExT Chef Reagents (Part No. A30672)		
Ion S5™ ExT Chef PGS Reagents	4 cartridges	–30°C to –10°C
Ion S5™ ExT Sequencing Solutions (Part No. A30521)		
Ion S5™ ExT Wash Solution	4 x 1.5 L	15°C to 30°C
Ion S5™ Cleaning Solution	250 mL	
Ion S5™ ExT Sequencing Reagents (Part No. A30522)		
Ion S5™ ExT Sequencing Reagents	4 cartridges	–30°C to –10°C

Ion Chip Kits

One of the following Ion Chip kits is included in each Ion ReproSeq™ PGS Kit:

Description	Included in Ion ReproSeq™ PGS Kit (Cat. No.)	Quantity	Storage
Ion 510™ Chip Kit (Cat. No. A34292)	A34899	4 chips	15°C to 30°C
Ion 520™ Chip Kit (Cat. No. A27761)	A34900	4 chips	
Ion 530™ Chip Kit (Cat. No. A27763)	A34901	4 chips	

Precautions

Handle biological samples and all other materials according to local laboratory guidelines and regulations. Avoid cross-contamination of samples and reagents to ensure quality results.

If equipment or reagents are used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.

IMPORTANT! Do not substitute components in this kit with components from other Ion Torrent™ library, template, or sequencing kits. This protocol has been verified using these specific materials. Substitution may adversely affect system performance.

Note: Refer to the expiration date on the package labels. Do not use kits after the expiration date.

Customer and technical support

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- Product documentation
 - User guides, manuals, and protocols
 - Certificates of Analysis
 - Safety Data Sheets (SDSs; also known as MSDSs)

Note: For SDSs for reagents and chemicals from other manufacturers, contact the manufacturer.

Limited product warranty

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For descriptions of symbols on product labels or product documents, go to [thermofisher.com/symbols-definition](https://www.thermofisher.com/symbols-definition).

Revision history: Pub. No. MAN0016714 B.0

Revision	Date	Description
C.0	15 August 2023	<ul style="list-style-type: none">• Updated Ion SingleSeq™ Kit configuration.• Updated Ion S5™ ExT Chef Supplies (Part No. A30673) to include the PCR Plate Frame.
B.0	21 March 2018	Updated for the Ion GeneStudio™ S5 Systems
A.0	7 June 2017	New Product Information Sheet for the Ion ReproSeq™ PGS Kits – Ion S5™ System

The information in this guide is subject to change without notice.

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