












# Product selection guide | Ion GeneStudio S5 Systems

	 Select targets	 Construct library	 Prepare template	 Perform sequencing	 Analyze data	
Research application	Products					
 Cancer genomics research	Molecular profiling	<p>Ion Torrent™ Oncomine™ Comprehensive Assay Plus - Cat. No. A49667 (Chef-Ready) and Cat. No. A48577 (Manual)</p> <p>Ion Torrent™ Oncomine™ Comprehensive Assay v3 - Cat. No. A35806 (Chef-Ready) and Cat. No. A35805 (Manual)</p> <p>Ion Torrent™ Oncomine™ Focus Assay* - Cat. No. 42008 (Chef-Ready) and Cat. No. A35957 and A29230 (Manual)</p> <p>Ion Torrent™ Oncomine™ BRCA Research Assay* - Cat. No. A32841 (Chef-Ready) and Cat. No. A32840 (Manual)</p> <p>Ion Torrent™ Oncomine™ Childhood Cancer Research Assay - Cat. No. A36486 (Chef-Ready) and Cat. No. A36485 (Manual)</p> <p>Ion AmpliSeq™ Cancer Hotspot Panel v2 - Cat. No. A32914 (Chef-Ready)</p>	<p><b>Automated library preparation:</b></p> <p>Ion AmpliSeq™ Kit for Chef™ DL8 instrument - Cat. No. A29024 (32 rxns)</p> <p><b>Manual library preparation:</b></p> <p><b>For Ion AmpliSeq™ panels:</b></p> <p>Ion AmpliSeq™ Library Kit Plus - Cat. No. 4488990 (24 rxns), A35907 (96 rxns), A38875 (384 rxns)</p> <p>OR</p> <p>Ion AmpliSeq™ Library Kit 2.0 - Cat. No. 4480441 (96 rxns)</p> <p>AND</p> <p>IonCode™ Barcode Adapters - Cat. No. A29747 (96 barcodes), A29751 (384 barcodes)</p> <p>Ion Xpress™ Barcode Adapters 1-96 Kit - Cat. No. 4474517</p> <p><b>For Ion AmpliSeq™ HD panels:</b></p> <p>Ion AmpliSeq™ HD Library Kit with HD Enhancer - Cat. No. A57283</p> <p>Ion AmpliSeq™ HD Dual Barcode Kit 1-24 - Cat. No. A37695</p>	<p>Ion Chef™ Instrument - Cat. No. 4484177</p> <p>AND</p> <p><b>Any of the following:</b></p> <p>Ion 510™ &amp; Ion 520™ &amp; Ion 530™ Kit–Chef - Cat. No. A34019 (1 run) or A34461 (2 runs)</p> <p>Ion 540™ Kit–Chef - Cat. No. A30011</p> <p>Ion 550™ Kit–Chef - Cat. No. A34541 (Includes template preparation and sequencing reagents)</p> <p>OPTIONAL</p> <p>Ion 550™ Single Chip Supplemental Kit - Cat. No. A36953</p>	<p>Ion GeneStudio™ S5 System - Cat. No. A38194</p> <p>OR</p> <p>Ion GeneStudio™ S5 Plus System - Cat. No. A38195</p> <p>OR</p> <p>Ion GeneStudio™ S5 Prime System - Cat. No. A38196</p> <p>Ion 510™ Chip Kit - Cat. No. A34292 (8 chips)</p> <p>Ion 520™ Chip Kit - Cat. No. A27762 (8 chips)</p> <p>Ion 530™ Chip Kit - Cat. No. A27764 (8 chips)</p> <p>Ion 540™ Chip Kit - Cat. No. A27765 (4 chips) or A27766 (8 chips)</p> <p>Ion 550™ Chip Kit** - Cat. No. A34537 (4 chips) or A34538 (8 chips)</p> <p>OPTIONAL</p> <p>Ion S5™ Controls Kit Plus - Cat. No. A30729</p> <p>Ion S5™ Calibration Standard - Cat. No. A27988</p>	<p><b>Torrent Suite™ Software</b></p> <p>Ion Reporter™ Software (Server, Cat. No. 4487118 or cloud, <a href="http://ionreporter.thermofisher.com/ir/">ionreporter.thermofisher.com/ir/</a>)</p>
	Liquid biopsy	<p>Ion Torrent™ Oncomine™ Pan-Cancer Cell-Free Assay* - Cat. No. A37664</p> <p>Ion Torrent™ Oncomine™ Colon cfDNA Assay* - Cat. No. A31182</p> <p>Ion Torrent™ Oncomine™ Lung Cell-Free Total Nucleic Acid Research Assay* - Cat. No. A35864</p> <p>Ion Torrent™ Oncomine™ Breast cfDNA Research Assay v2* - Cat. No. A35865</p>	<p>Ion AmpliSeq HD Made-to-Order Panels <a href="http://ampliseq.com">ampliseq.com</a></p> <p>Ion AmpliSeq HD Library Kit with HD Enhancer - Cat. No. A57283</p> <p>Ion AmpliSeq HD Dual Barcode Kit 1-24 - Cat. No. A37695</p> <p>ADDITIONAL ACCESSORY PRODUCTS</p> <p>Ion Library Equalizer™ Kit - Cat. No. 4482298</p>			

\* To learn more about Ion Torrent™ Oncomine™ solutions, go to [thermofisher.com/oncomine-assays](http://thermofisher.com/oncomine-assays). Oncomine solutions are performance-verified on specific Ion Torrent™ chip configurations and workflows; contact a member of the clinical research team to learn more. All Chef-ready library preparation configurations include the Ion AmpliSeq™ Kit for Chef DL8 containing barcodes and an equalizer. Manual library preparation assays include library prep reagents.








\*\* The Ion 550 Chip is only compatible with Ion GeneStudio Plus and Prime Systems.

# Product selection guide | Ion GeneStudio S5 Systems (continued)

	 Select targets	 Construct library	 Prepare template	 Perform sequencing	 Analyze data	
Research application	Products					
Cancer genomics research	Immuno-oncology	<p><b>Ion Torrent™ Oncomine™ Immune Response Research Assay</b> - Cat. No. A32928 (Chef-Ready) and A32881 (Manual)</p> <p><b>Ion Torrent™ Oncomine™ TCR Beta-LR Assay</b> - Cat. No. A35386</p> <p><b>Ion Torrent™ Oncomine™ Tumor Mutation Load Assay*</b> - Cat. No. A37910 (Chef-Ready) and Cat. No. A37909 (Manual)</p> <p><b>Ion Torrent™ Oncomine™ TCR Beta-SR Assay, DNA</b> - Cat. No. A39072</p> <p><b>Ion Torrent™ Oncomine™ TCR Beta-SR Assay, RNA</b> - Cat. No. A39359</p> <p><b>Ion Torrent™ Oncomine™ BCR IGH SR Assay, DNA</b> - Cat. No. A45483</p> <p><b>Ion Torrent™ Oncomine™ BCR IGH SR Assay, RNA</b> - Cat. No. A45484</p> <p><b>Ion Torrent™ Oncomine™ BCR IGH LR Assay, RNA</b> - Cat. No. A45485</p>	<p><b>Ion Torrent™ Dual Barcode Kit 1-96</b> - Cat. No. A39360</p> <p>ADDITIONAL ACCESSORY PRODUCTS</p> <p><b>Ion Library Equalizer Kit</b> - Cat. No. 4482298</p>	<p><b>Ion Chef Instrument</b> - Cat. No. 4484177</p> <p>AND</p> <p>Any of the following:</p> <p><b>Ion 510 &amp; Ion 520 &amp; Ion 530 Kit–Chef</b> - Cat. No. A34019 (1 run) or A34461 (2 runs)</p> <p><b>Ion 540 Kit–Chef</b> - Cat. No. A30011</p> <p><b>Ion 550 Kit–Chef</b> - Cat. No. A34541 (Includes template preparation and sequencing reagents)</p> <p>OPTIONAL</p> <p><b>Ion 550 Single Chip Supplemental Kit</b> - Cat. No. A36953</p>	<p><b>Ion GeneStudio S5 System</b> - Cat. No. A38194</p> <p>OR</p> <p><b>Ion GeneStudio S5 Plus System</b> - Cat. No. A38195</p> <p>OR</p> <p><b>Ion GeneStudio S5 Prime System</b> - Cat. No. A38196</p> <p><b>Ion 510 Chip Kit</b> - Cat. No. A34292 (8 chips)</p> <p><b>Ion 520 Chip Kit</b> - Cat. No. A27762 (8 chips)</p> <p><b>Ion 530 Chip Kit</b> - Cat. No. A27764 (8 chips)</p> <p><b>Ion 540 Chip Kit</b> - Cat. No. A27765 (4 chips) or A27766 (8 chips)</p> <p><b>Ion 550 Chip Kit**</b> - Cat. No. A34537 (4 chips) or A34538 (8 chips)</p> <p>OPTIONAL</p> <p><b>Ion S5 Controls Kit Plus</b> - Cat. No. A30729</p> <p><b>Ion S5 Calibration Standard</b> - Cat. No. A27988</p>	<p><b>Torrent Suite Software</b></p> <p><b>Ion Reporter Software</b> (Server, Cat. No. 4487118 or cloud, <a href="https://ionreporter.thermofisher.com/ir/">ionreporter.thermofisher.com/ir/</a>)</p>
	Hemato-oncology	<p><b>Ion Torrent™ Oncomine™ Myeloid Research Assay*</b> - Cat. No. A36941 (Chef-Ready) and Cat. No. A36940 (Manual)</p> <p><b>Ion Torrent™ Oncomine™ Myeloid MRD Assay (RUO) DNA</b> - Cat. No. A53838</p> <p><b>Ion Torrent™ Oncomine™ Myeloid MRD Assay (RUO) RNA</b> - Cat. No. A53839</p> <p><b>Oncomine Childhood Cancer Research Assay</b> - Cat. No. A36486 (Chef-Ready) and Cat. No. A36485 (Manual)</p>				
	DNA methylation analysis	<p><b>Ion AmpliSeq™ Methylation Panel for Cancer Research</b> (order at <a href="https://ampliseq.com">ampliseq.com</a>, custom designs available upon request)</p>	<p><b>Bisulfite DNA conversion: Applied Biosystems™ MethylCode™ Bisulfite Conversion Kit</b> - Cat. No. MECOV50</p> <p>Automated library preparation:</p> <p><b>Ion AmpliSeq Kit for Chef DL8 instrument</b> - Cat. No. A29024 (32 rxns)</p> <p>Manual library preparation:</p> <p><b>Ion AmpliSeq Library Kit Plus</b> - Cat. No. 4488990 (24 rxns), A35907 (96 rxns), A38875 (384 rxns)</p> <p><b>IonCode Barcode Adapters</b> - Cat. No. A29747 (96 barcodes), A29751 (384 barcodes)</p> <p>ADDITIONAL ACCESSORY PRODUCTS</p> <p><b>Ion Library Equalizer Kit</b> - Cat. No. 4482298</p>	<p><b>Ion Chef Instrument</b> - Cat. No. 4484177</p> <p>AND</p> <p><b>Ion 520™ &amp; Ion 530™ ExT Kit–Chef</b> - Cat. No. A30670 (Template preparation and sequencing reagents for 400- to 600-base read libraries)</p>	<p><b>Ion GeneStudio S5 System</b> - Cat. No. A38194</p> <p>OR</p> <p><b>Ion GeneStudio S5 Plus System</b> - Cat. No. A38195</p> <p>OR</p> <p><b>Ion GeneStudio S5 Prime System</b> - Cat. No. A38196</p> <p><b>Ion 520 Chip Kit</b> - Cat. No. A27762 (8 rxns)</p> <p><b>Ion 530 Chip Kit</b> - Cat. No. A27764 (8 rxns)</p> <p>OPTIONAL</p> <p><b>Ion S5™ ExT Calibration Standard</b> - Cat. No. A30738</p>	<p><b>Torrent Suite Software</b></p> <p><b>Ion Reporter Software</b> (Server, Cat. No. 4487118 or cloud, <a href="https://ionreporter.thermofisher.com/ir/">ionreporter.thermofisher.com/ir/</a>)</p> <p><b>Ion AmpliSeq™ Methylation Analysis plugin</b></p>







\* To learn more about Oncomine solutions, go to [thermofisher.com/oncomine-assays](https://thermofisher.com/oncomine-assays). Oncomine solutions are performance-verified on specific Ion Torrent chip configurations and workflows; contact a member of the clinical research team to learn more. All Chef-ready library preparation configurations include the Ion AmpliSeq Kit for Chef DL8 containing barcodes and an equalizer. Manual library preparation assays include library prep reagents.

# Product selection guide | Ion GeneStudio S5 Systems (cont.)

	 Select targets	 Construct library	 Prepare template	 Perform sequencing	 Analyze data
Research application	Products				
 Reproductive health research	<b>Preimplantation genetic testing for aneuploidy (PGT-A)</b> Ion ReproSeq™ PGS Kit with Ion 510™ Chips - Cat. No. A34899 Ion ReproSeq™ PGS Kit with Ion 520™ Chips - Cat. No. A34900 Ion ReproSeq™ PGS Kit with Ion 530™ Chips - Cat. No. A34901 Ion AmpliSeq™ Polyploidy Panel Kit with Ion 520™ Chips (80 samples) - Cat. No. GS45691 Ion AmpliSeq™ Polyploidy Panel Kit with Ion 530™ Chips (480 samples) - Cat. No. GS45690 Note: These kits contain all components needed for the complete NGS workflow.	Ion Chef Instrument - Cat. No. 4484177		Ion GeneStudio S5 System - Cat. No. A38194 OR Ion GeneStudio S5 Plus System - Cat. No. A38195 OR Ion GeneStudio S5 Prime System - Cat. No. A38196	<b>Torrent Suite Software</b> <b>Ion Reporter Software</b> (Aneuploidy workflow) for server, Cat. No. 4487118; for cloud, go to <a href="http://ionreporter.thermofisher.com/ir/">ionreporter.thermofisher.com/ir/</a>
	<b>Preimplantation genetic testing for monogenic disorders (PGT-M)</b> Ion Torrent™ PGD-SEQ™ SMN1 Panel and Reagent Kit - Cat. No. BA03784 Ion Torrent™ PGD-SEQ™ CFTR Panel and Reagent Kit - Cat. No. BA03800 Ion Torrent™ PGD-SEQ™ COL1A1 Panel and Reagent Kit - Cat. No. BA03803 Ion Torrent™ PGD-SEQ™ FMR1 Panel and Reagent Kit - Cat. No. BA03816 Ion Torrent™ PGD-SEQ™ HBA1/HBA2 Panel and Reagent Kit - Cat. No. BA03864 Ion Torrent™ PGD-SEQ™ HBB Panel and Reagent Kit - Cat. No. BA03820 For a complete list of over 480 Ion Torrent™ PGD-SEQ™ kits, please visit <a href="http://thermofisher.com/pgd-seq">thermofisher.com/pgd-seq</a> Note: These kits contain all components needed for the complete NGS workflow.				<b>Torrent Suite Software</b>
	<b>Expanded carrier screening</b> Ion CarrierSeq™ ECS Kit with Ion 530™ Chips (3 samples/chip) - Cat. No. A48022 Ion CarrierSeq™ ECS Kit with Ion 530™ Chips (4 samples/chip) - Cat. No. A43585 Ion CarrierSeq™ ECS Kit with Ion 540™ Chips (15 samples/chip) - Cat. No. A48023 Ion CarrierSeq™ ECS Kit with Ion 540™ Chips (16 samples/chip) - Cat. No. A43586 Ion AmpliSeq™ CarrierSeq™ ECS Panel (24 reactions) - Cat. No. A48036 Ion AmpliSeq™ CarrierSeq™ ECS Panel (96 reactions) - Cat. No. A43471 Note: These kits contain all components needed for the complete NGS workflow.				<b>Torrent Suite Software</b> <b>Ion Reporter Software</b> (CarrierSeq workflow) for server, Cat. No. 4487118; for cloud, go to <a href="http://ionreporter.thermofisher.com/ir/">ionreporter.thermofisher.com/ir/</a> <b>Carrier Reporter Software</b>
 Inherited disease research	<b>Variant detection with targeted sequencing</b> Ion AmpliSeq On-Demand Panels (Order at <a href="http://ampliseq.com">ampliseq.com</a> ) Ion AmpliSeq Made-to-Order Panels (Customize your own or browse pre-designed panels at <a href="http://ampliseq.com">ampliseq.com</a> )	<b>Automated library preparation:</b> Ion AmpliSeq Kit for Chef DL8 instrument - Cat. No. A29024 (32 rxns)  <b>Manual library preparation:</b> <b>For Ion AmpliSeq panels:</b> Ion AmpliSeq Library Kit Plus - Cat. No. 4488990 (24 rxns), Cat. No. A35907 (96 rxns), Cat. No. A38875 (384 rxns) OR Ion AmpliSeq Library Kit 2.0 - Cat. No. 4480441 (96 rxns) AND IonCode Barcode Adapters - Cat. No. A29747 (96 barcodes), A29751 (384 barcodes) Ion Xpress Barcode Adapters 1-96 Kit - Cat. No. 4474517  ADDITIONAL ACCESSORY PRODUCTS Ion Library Equalizer Kit - Cat. No. 4482298 Ion AmpliSeq Sample ID Panel - Cat. No. 4479790	Ion Chef Instrument - Cat. No. 4484177 AND <b>Any of the following:</b> <b>Ion 510 &amp; Ion 520 &amp; Ion 530 Kit–Chef</b> - Cat. No. A34019 (1 run) or A34461 (2 runs) <b>Ion 540 Kit–Chef</b> - Cat. No. A30011 <b>Ion 550 Kit–Chef</b> - Cat. No. A34541 (Includes template preparation and sequencing reagents)	Ion GeneStudio S5 System - Cat. No. A38194 OR Ion GeneStudio S5 Plus System - Cat. No. A38195 OR Ion GeneStudio S5 Prime System - Cat. No. A38196 <b>Ion 510 Chip Kit</b> - Cat. No. A34292 (8 chips) <b>Ion 520 Chip Kit</b> - Cat. No. A27762 (8 chips) <b>Ion 530 Chip Kit</b> - Cat. No. A27764 (8 chips) <b>Ion 540 Chip Kit</b> - Cat. No. A27766 (8 chips) <b>Ion 550 Chip Kit</b> - Cat. No. A34538 (8 chips) OPTIONAL <b>Ion S5 Controls Kit Plus</b> - Cat. No. A30729 <b>Ion S5 Calibration Standard</b> - Cat. No. A27988	<b>Torrent Suite Software</b> <b>Ion Reporter Software</b> (server or cloud) for server, Cat. No. 4487118; for cloud, go to <a href="http://ionreporter.thermofisher.com/ir/">ionreporter.thermofisher.com/ir/</a>
	<b>Variant detection with exome sequencing</b>	Ion AmpliSeq™ Exome RDY Kit 1x8 - Cat. No. A38262 OR Ion AmpliSeq™ Exome RDY Kit 4x2 - Cat. No. A38264 <b>Note:</b> 2 exomes per Ion 540 Chip or 3–4 exomes per Ion 550 Chip.	<b>Ion AmpliSeq™ library kits included in Ion AmpliSeq™ exome kits</b> <b>Multiplexed sequencing:</b> IonCode Barcode Adapters - Cat. No. A29747 (96 barcodes), A29751 (384 barcodes) Ion Xpress Barcode Adapters 1-16 Kit - Cat. No. 4471250  ADDITIONAL ACCESSORY PRODUCTS <b>DNA quality control</b> <b>Invitrogen™ Qubit™ 4 NGS Starter Kit</b> - Cat. No. Q33228 (Includes Invitrogen™ Qubit™ 4 Fluorometer, Qubit™ dsDNA HS Assay Kit, and Qubit™ assay tubes)		








 To see the latest products in the Ion GeneStudio portfolio, visit [thermofisher.com/genestudio](http://thermofisher.com/genestudio)

# Product selection guide | Ion GeneStudio S5 Systems (cont.)






	 Select targets	 Construct library	 Prepare template	 Perform sequencing	 Analyze data	
Research application	Products					
 Infectious disease and microbiology research	Discovery and characterization	<p><b>DNA</b></p> <p>Ion Xpress™ Plus Fragment Library Kit - Cat. No. 4471269 Ion Xpress Barcode Adapters 1-96 Kit - Cat. No. 4474517</p> <p><b>RNA</b></p> <p>Ion Total RNA-Seq Kit v2 - Cat. No. 4475936</p> <p>ADDITIONAL ACCESSORY PRODUCTS Ion Library Equalizer Kit - Cat. No. 4482298</p>	<p>Ion Chef Instrument - Cat. No. 4484177</p> <p>AND</p> <p>Any of the following:</p> <p>Ion 510 &amp; Ion 520 &amp; Ion 530 Kit–Chef - Cat. Nos. A34019 and A3446 Ion 540 Kit–Chef - Cat. No. A30011 Ion 550 Kit–Chef - Cat. No. A34541</p> <p><b>For 600 bp (longer-read) sequencing:</b></p> <p>Ion 520 &amp; Ion 530 ExT Kit–Chef - Cat. No. A30670 (Template preparation and sequencing reagents for 400- to 600-base read libraries)</p>	<p>Ion GeneStudio S5 System - Cat. No. A38194</p> <p>OR</p> <p>Ion GeneStudio S5 Plus System - Cat. No. A38195</p> <p>OR</p> <p>Ion GeneStudio S5 Prime System - Cat. No. A38196</p> <p>Ion 510 Chip Kit - Cat. No. A34292 (8 rxns) Ion 520 Chip Kit - Cat. No. A27762 (8 rxns) Ion 530 Chip Kit - Cat. No. A27764 (8 rxns) Ion 540 Chip Kit - Cat. No. A27766 (8 rxns) Ion 550 Chip Kit - Cat. No. A34538 (8 rxns)</p> <p>OPTIONAL</p> <p>Ion S5 Controls Kit Plus - Cat. No. A30729 Ion S5 Calibration Standard - Cat. No. A27988 Ion S5 ExT Calibration Standard - Cat. No. A30738</p> <p>Ion Torrent™ <i>E. coli</i> Control 600 Library - Cat. No. A32470</p>	<p>Torrent Suite Software and applicable plugins Assembler SPAdes v3.1 Plugin</p>	
	Bacterial and viral analysis	<p>Ion AmpliSeq Made-to-Order Panels (Customize your own panel for any genome, or select from the following pre-designed panels at <a href="https://ampliseq.com">ampliseq.com</a>)</p> <p>Ion AmpliSeq™ Pan-Bacterial Research Panel Ion AmpliSeq™ Anti-Microbial Resistance Research Panel Ion AmpliSeq™ TB Research Panel Ion AmpliSeq™ Ebola Research Panel Ion AmpliSeq™ Microbiome Health Research Assay - Cat. No. A46495 (48 rxns), Cat. No. A46496 (256 samples), Cat. No. A46497 (384 samples) Ion AmpliSeq™ SARS-CoV-2 Insight Research Assay - Cat. No. A51306 (Chef-Ready) and Cat. No. A51305 (Manual)</p>	<p><b>Automated library preparation:</b></p> <p>Ion AmpliSeq Kit for Chef DL8 - Cat. No. A29024 (32 rxns)</p> <p><b>Manual library preparation:</b></p> <p><b>For Ion AmpliSeq panels:</b></p> <p>Ion AmpliSeq Library Kit Plus (recommended for Ion AmpliSeq On-Demand Panels) - Cat. No. 4488990</p> <p>OR</p> <p>Ion AmpliSeq Library Kit 2.0 - Cat. No. 4480441 (96 rxns)</p> <p>AND</p> <p>IonCode Barcode Adapters - Cat. No. A29747 (96 barcodes), A29751 (384 barcodes) Ion Xpress Barcode Adapters 1-96 Kit - Cat. No. 4474517</p> <p>ADDITIONAL ACCESSORY PRODUCTS Ion Library Equalizer Kit - Cat. No. 4482298 Ion AmpliSeq Sample ID Panel - Cat. No. 4479790</p>			<p>Torrent Suite Software and applicable plugins Ion Reporter Software (Cloud or server) for server, Cat. No. 4487118; for cloud, go to <a href="https://ionreporter.thermofisher.com/ir/">ionreporter.thermofisher.com/ir/</a></p>
	Metagenomics	<p>Ion 16S™ Metagenomics Kit - Cat. No. A26216 Ion AmpliSeq Microbiome Health Research Assay - Cat. No. A46495 (48 rxns), Cat. No. A46496 (256 samples), Cat. No. A46497 (384 samples)</p>	<p>Ion Plus Fragment Library Kit - Cat. No. 4471252 (For microbial community characterization by 16S rDNA sequencing)</p> <p>Ion Xpress Barcode Adapters 1-96 Kit - Cat. No. 4474517 or other Ion Xpress Barcode Adapters Kits</p> <p>Ion Universal Library Quantitation Kit - Cat. No. A26217 Ion Library Equalizer Kit - Cat. No. 4482298</p>			<p>Torrent Suite Software Ion Reporter Software (Cloud or server) for server, Cat. No. 4487118; for cloud, go to <a href="https://ionreporter.thermofisher.com/ir/">ionreporter.thermofisher.com/ir/</a></p>

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# Product selection guide | Ion GeneStudio S5 Systems (cont.)

	 Select targets	 Construct library	 Prepare template	 Perform sequencing	 Analyze data	
Research application	Products					
 Infectious disease and microbiology research (continued)	<b>Metagenomics</b> (continued)	<p><b>Ion Xpress Plus Fragment Library Kit</b> - Cat. No. 4471269 (or other kits for library preparation from genomic DNA)</p> <p><b>Ion Universal Library Quantitation Kit</b> - Cat. No. A26217</p> <p>OR</p> <p><b>Ion Library TaqMan™ Quantitation Kit</b> - Cat. No. 4468802</p> <p>ADDITIONAL ACCESSORY PRODUCTS</p> <p><b>Ion Xpress Barcode Adapters 1-96 Kit</b> - Cat. No. 4474517</p> <p>OR</p> <p>other <b>Ion Xpress barcode adapter kits</b></p> <p><b>Ion Library Equalizer Kit</b> - Cat. No. 4482298</p>	<p><b>Ion Chef Instrument</b> - Cat. No. 4484177</p> <p>AND</p> <p><b>Any of the following:</b></p> <p><b>Ion 510 &amp; Ion 520 &amp; Ion 530 Kit–Chef</b> - Cat. Nos. A34019 and A3446</p> <p><b>Ion 540 Kit–Chef</b> - Cat. No. A30011</p> <p><b>Ion 550 Kit–Chef</b> - Cat. No. A34541</p> <p><b>For 600 bp (longer-read) sequencing:</b></p> <p><b>Ion 520 &amp; Ion 530 ExT Kit–Chef</b> - Cat. No. A30670 (Template preparation and sequencing reagents for 400- to 600-base read libraries)</p>	<p><b>Ion GeneStudio S5 System</b> - Cat. No. A38194</p> <p>OR</p> <p><b>Ion GeneStudio S5 Plus System</b> - Cat. No. A38195</p> <p>OR</p> <p><b>Ion GeneStudio S5 Prime System</b> - Cat. No. A38196</p> <p><b>Ion 510 Chip Kit</b> - Cat. No. A34292 (8 rxns)</p> <p><b>Ion 520 Chip Kit</b> - Cat. No. A27762 (8 rxns)</p> <p><b>Ion 530 Chip Kit</b> - Cat. No. A27764 (8 rxns)</p> <p><b>Ion S5 Calibration Standard</b> - Cat. No. A27988</p> <p><b>Ion S5 ExT Calibration Standard</b> - Cat. No. A30738</p> <p><b>E. coli Control 600 Library</b> - Cat. No. A32470</p> <p><b>Ion 540 Chip Kit</b> - Cat. No. A27766 (8 rxns)</p> <p><b>Ion 550 Chip Kit</b> - Cat. No. A34538 (8 rxns)</p> <p>OPTIONAL</p> <p><b>Ion S5 Controls Kit Plus</b> - Cat. No. A30729</p>	<p><b>Torrent Suite Software</b></p> <p><b>Ion Reporter Software</b> (Cloud or server) for server, Cat. No. 4487118; for cloud, go to <a href="https://ionreporter.thermofisher.com/ir/">ionreporter.thermofisher.com/ir/</a></p>	
	 Plant and animal genomics research	<b>Variant detection</b>	<p>Design custom panels for any reference genome using the <b>Ion AmpliSeq™ Designer</b> at <a href="https://ampliseq.com">ampliseq.com</a>; upload a custom reference or use one of the preloaded reference genomes for mouse, chicken, cow, pig, sheep, Chinese hamster, canine, maize, rice, soybean, or tomato</p>	<p><b>Automated library preparation:</b></p> <p><b>Ion AmpliSeq Kit for Chef DL8</b> - Cat. No. A29024 (32 rxns)</p> <p><b>Manual library preparation:</b></p> <p><b>Ion AmpliSeq Library Kit Plus</b> - Cat. No. 4488990 (24 rxns), A35907 (96 rxns), A38875 (384 rxns)</p> <p><b>Ion AmpliSeq Library Kit 2.0 (96 LV format)</b> - Cat. No. 4480441</p> <p><b>Ion Xpress Barcode Adapters 1-96 Kit</b> - Cat. No. 4474517</p> <p><b>IonCode Barcode Adapters</b> - Cat. No. A29747 (96 barcodes), A29751 (384 barcodes)</p> <p>ADDITIONAL ACCESSORY PRODUCTS</p> <p><b>Ion Library Equalizer Kit</b> - Cat. No. 4482298</p>	<p><b>Ion Chef Instrument</b> - Cat. No. 4484177</p> <p>AND</p> <p><b>Any of the following:</b></p> <p><b>Ion 510 &amp; Ion 520 &amp; Ion 530 Kit–Chef</b> - Cat. Nos. A34019 and A3446</p> <p><b>Ion 540 Kit–Chef</b> - Cat. No. A30011</p> <p><b>Ion 550 Kit–Chef</b> - Cat. No. A34541</p> <p><b>For 600 bp (longer-read) sequencing:</b></p> <p><b>Ion 520 &amp; Ion 530 ExT Kit–Chef</b> - Cat. No. A30670 (Template preparation and sequencing reagents for 400- to 600-base read libraries)</p>	<p><b>Ion GeneStudio S5 System</b> - Cat. No. A38194</p> <p>OR</p> <p><b>Ion GeneStudio S5 Plus System</b> - Cat. No. A38195</p> <p>OR</p> <p><b>Ion GeneStudio S5 Prime System</b> - Cat. No. A38196</p> <p><b>Ion 510 Chip Kit</b> - Cat. No. A34292 (8 rxns)</p> <p><b>Ion 520 Chip Kit</b> - Cat. No. A27762 (8 rxns)</p> <p><b>Ion 530 Chip Kit</b> - Cat. No. A27764 (8 rxns)</p> <p><b>Ion S5 Calibration Standard</b> - Cat. No. A27988</p> <p><b>Ion S5 ExT Calibration Standard</b> - Cat. No. A30738</p> <p><b>Ion 540 Chip Kit</b> - Cat. No. A27766 (8 rxns)</p> <p><b>Ion 550 Chip Kit</b> - Cat. No. A34538 (8 rxns)</p> <p>OPTIONAL</p> <p><b>Ion S5 Controls Kit Plus</b> - Cat. No. A30729</p>

# Product selection guide | Ion GeneStudio S5 Systems (cont.)

	 Select targets	 Construct library	 Prepare template	 Perform sequencing	 Analyze data	
Research application	Products*					
Gene expression analysis	Targeted RNA sequencing	<p><b>Ion AmpliSeq™ Made-to-Order RNA Panels</b> (Customize your own or browse predesigned community panels at <a href="https://www.thermofisher.com/ampliseq.com">ampliseq.com</a>)</p> <p><b>Ion AmpliSeq™ Circular RNA Research Panel</b></p> <p><b>Ion AmpliSeq™ RNA MAPK Pathway Research Panel</b></p> <p><b>Ion AmpliSeq™ RNA Human Oncology Pathways Research Panel</b></p> <p><b>Ion AmpliSeq™ RNA Inflammation Response Research Panel</b></p> <p><b>Ion AmpliSeq™ RNA WNT Signaling Pathway Research Panel</b></p> <p><b>Ion AmpliSeq™ Long Non-coding RNA Research Panel</b></p> <p><b>Ion AmpliSeq™ RNA Stem Cell Research Panel</b></p> <p><b>Ion AmpliSeq™ RNA Apoptosis Panel</b> (Visit <a href="https://www.thermofisher.com/ampliseq.com">ampliseq.com</a> for a complete list of panels)</p>	<p><b>Automated library preparation:</b> <b>Ion AmpliSeq Kit for Chef DL8 instrument</b> - Cat. No. A29024 (32 rxns)</p> <p><b>Manual library preparation:</b> <b>For Ion AmpliSeq panels:</b> <b>Ion AmpliSeq Library Kit 2.0</b> - Cat. No. 4480441 (96 rxns) OR <b>Ion AmpliSeq Library Kit Plus</b> - Cat. No. 4488990 (24 rxns), Cat. No. A35907 (96 rxns), Cat. No. A38875 (384 rxns)</p> <p>ADDITIONAL ACCESSORY PRODUCTS</p> <p><b>Multiplexed sequencing:</b> <b>IonCode Barcode Adapters 1-96 Kit</b> - Cat. No. A29747 <b>IonCode Barcode Adapters 1-384 Kit</b> - Cat. No. A29751 <b>Ion Xpress Barcode Adapters 1-16 Kit</b> - Cat. No. 4471250 <b>Ion Xpress Barcode Adapters 1-96 Kit</b> - Cat. No. 4474517 <b>Ion Torrent™ NGS Reverse Transcription Kit</b> - Cat. No. A45003 <b>Ion Library Equalizer Kit</b> - Cat. No. 4482298</p>	<p><b>Ion Chef Instrument</b> - Cat. No. 4484177 AND <b>Any of the following:</b> <b>Ion 510 &amp; Ion 520 &amp; Ion 530 Kit-Chef</b> - Cat. No. A34019 (1 run) and A34461 (2 runs) <b>Ion 540 Kit-Chef</b> - Cat. No. A30011 <b>Ion 550 Kit-Chef</b> - Cat. No. A34541 (Includes template preparation and sequencing reagents)</p>	<p><b>Ion GeneStudio S5 System</b> - Cat. No. A38194 OR <b>Ion GeneStudio S5 Plus System</b> - Cat. No. A38195 OR <b>Ion GeneStudio S5 Prime System</b> - Cat. No. A38196 <b>Ion 510 Chip Kit</b> - Cat. No. A34292 (8 chips) <b>Ion 520 Chip Kit</b> - Cat. No. A27762 (8 chips) <b>Ion 530 Chip Kit</b> - Cat. No. A27764 (8 chips) <b>Ion 540 Chip Kit</b> - Cat. No. A27766 (8 chips) <b>Ion 550 Chip Kit</b> - Cat. No. A34538 (8 chips) OPTIONAL <b>Ion S5 Controls Kit Plus</b> - Cat. No. A30729 <b>Ion S5 Calibration Standard</b> - Cat. No. A27988</p>	<p><b>Torrent Suite Software and applicable plugins</b> <b>Ion AmpliSeq™ RNA Plugin</b></p>
	Whole-transcriptome RNA sequencing	<p><b>Ion AmpliSeq™ Transcriptome Human Gene Expression Kit</b> - Cat. No. A26325 (24 rxns) or A26326 (96 rxns) or A26327 (384 rxns)</p> <p><b>Ion AmpliSeq™ Transcriptome Mouse Gene Expression Kit</b> - Cat. No. A36553 (24 rxns) or A36554 (96 rxns)</p> <p><b>Ion AmpliSeq™ Transcriptome Human Gene Expression Panel, Chef-Ready Kit</b> - Cat. No. A31446 (32 rxns)</p> <p><b>Ion AmpliSeq™ Transcriptome Mouse Gene Expression Panel, Chef-Ready Kit</b> - Cat. No. A36412 (32 rxns)</p> <p><b>Ion AmpliSeq™ ERCC Companion Panel</b> - Cat. No. A36552 (for optional control)</p>	<p><b>Ion Total RNA-Seq Kit v2</b> - Cat. No. 4475936 (12 rxns) and 4479789 (48 rxns)</p> <p>ADDITIONAL ACCESSORY PRODUCTS</p> <p><b>Multiplexed sequencing:</b> <b>Ion Xpress™ RNA-Seq Barcode 1-16 Kit</b> - Cat. No. 4475485 <b>Ion Library Equalizer Kit</b> - Cat. No. 4482298</p>			<p><b>Torrent Suite Software</b> <b>Ion RNASeq Analysis Plugin</b></p>
	mRNA sequencing	<p><b>mRNA isolation:</b> <b>Invitrogen™ Dynabeads™ mRNA DIRECT™ Micro Purification Kit</b> - Cat. No. 61021 OPTIONAL <b>Sample controls:</b> <b>ERCC RNA Spike-In Mix</b> - Cat. No. 4456740</p>				

\* RNA quality control: **Invitrogen™ Qubit™ 4 Fluorometer** - Cat. No. Q33226 AND **Invitrogen™ Qubit™ RNA HS Assay Kit** - Cat. No. Q32852.