

# Equipment and materials needed for sequencing

## Quick reference card

This Quick reference card lists examples of third-party laboratory equipment and other materials that are recommended for running specific types of SMRT sequencing applications on PacBio® Sequel® II, Sequel IIe and Revio systems. Note that although vendor part numbers are listed herein, they may not always be up to date. Verify and obtain the latest part numbers and relevant documentation from the specific vendor or manufacturer’s website. For more detailed guidance regarding specific equipment recommendations, refer to the appropriate PacBio **Procedure & checklist**.

## SMRT® sequencing application categories

Main application	Workflow	Procedure & checklist
Whole genome sequencing (WGS)	Large genome & small (microbial) genome WGS	Preparing whole genome and metagenome libraries using SMRTbell prep kit 3.0 [ <a href="#">102-166-600</a> ]
	Ultra-low DNA input WGS	Preparing HiFi SMRTbell libraries from ultra-low DNA input [ <a href="#">101-987-800</a> ]
Viral sequencing (VIRAL)	HiFiViral SARS-CoV-2	PacBio HiFiViral high-throughput multiplexing for full-viral genome sequencing of SARS-CoV-2 using SMRTbell prep kit 3.0 [ <a href="#">102-396-100</a> ]
	AAV	Preparing multiplexed AAV SMRTbell libraries using SMRTbell prep kit 3.0 [ <a href="#">102-126-400</a> ]
RNA sequencing (RNA)	Iso-Seq method	Preparing Iso-seq libraries using SMRTbell prep kit 3.0 [ <a href="#">102-396-000</a> ]
	MAS-Seq single-cell method	Preparing MAS-Seq libraries using MAS-Seq for 10x 3' concatenation kit [ <a href="#">102-678-600</a> ]
Metagenomics (META)	Full-length 16s	Preparing multiplexed amplicon libraries using SMRTbell prep kit 3.0 [ <a href="#">102-359-000</a> ]
	Shotgun metagenomics	Preparing whole genome and metagenome libraries using SMRTbell prep kit 3.0 [ <a href="#">102-166-600</a> ]
Targeted sequencing (TARG)	Amplicon sequencing	Preparing multiplexed amplicon libraries using SMRTbell prep kit 3.0 [ <a href="#">102-359-000</a> ]
		Preparing multiplexed amplicon libraries using PacBio barcoded M13 primers & SMRTbell prep kit 3.0 [ <a href="#">101-921-300</a> ]

## Laboratory equipment and material recommendations guide

+	Compatible with a specific application
-	Not recommended for a specific application
<b>Highly recommended</b>	Where multiple compatible equipment options may be available for a particular category, specific products that are highly recommended to enable generation of optimal SMRT sequencing data quality are also highlighted*



**Note:** Use of other compatible equipment options that are not specifically designated as “Highly Recommended” may require adjustment of input genomic DNA amounts (depending on the sample genome size and target coverage requirements) for HiFi whole genome sequencing projects to accommodate the DNA sizing QC steps. For more detailed guidance regarding specific equipment recommendations, refer to the appropriate PacBio **Procedure & checklist**.

## A. DNA sizing analysis





PacBio highly recommends using the Femto Pulse system (Agilent Technologies) for DNA sizing QC analysis of genomic DNA and SMRTbell libraries in HiFi whole genome sequencing (WGS) sample preparation workflows. Use of other compatible equipment options that are not specifically designated as “Highly Recommended” may lead to lower HiFi data yields and/or lower HiFi data quality, or may require adjustment of input genomic DNA amounts (depending on the sample genome size and target coverage requirements) for HiFi WGS projects to accommodate the DNA sizing QC steps. For more detailed guidance regarding specific equipment recommendations, refer to the appropriate PacBio Procedure & checklist.

Vendor	Product	PN	WGS	VIRAL	RNA	META	TARG
			Large & small genome WGS				
			Ultra-low DNA input WGS				
				HiFiViral SARS-CoV-2			
				AAV			
					Iso-Seq Method		
					MAS-Seq single-cell Method		
						Full-Length 16S	
						Shotgun Meta-G	
							Amplicon Seq.

Femto Pulse system for DNA sizing analysis up to ~165 kb

Highly recommended	Femto Pulse System			WGS		VIRAL		RNA		META		TARG
	Vendor	Product	PN	Large & small genome WGS	Ultra-low DNA input WGS	HiFiViral SARS-CoV-2	AAV	Iso-Seq Method	MAS-Seq single-cell Method	Full-Length 16S	Shotgun Meta-G	Amplicon Seq.
	Agilent technologies		M5330AA	+	+	+	+	+	+	+	+	+
		<ul style="list-style-type: none"> <li>• Rapid analysis time (&lt;1.5 hours)</li> <li>• Requires &lt;1 ng of sample</li> <li>• Suitable for analysis of SMRTbell libraries and genomic DNA up to ~165 kb</li> </ul>										
	Agilent technologies		FP-1002-0275	+	+	+	+	+	+	+	+	+
		Genomic DNA 165 kb Kit for Femto Pulse										

## DNA sizing analysis (cont.)

Vendor	Product	PN	WGS		VIRAL		RNA		META		TARG
			Large & small genome WGS	Ultra-low DNA input WGS	HiFiViral SARS-CoV-2	AAV	Iso-Seq Method	MAS-Seq single-cell Method	Full-Length 16S	Shotgun Meta-G	Amplicon Seq.
Bioanalyzer 2100 system for DNA sizing analysis up to ~7 – 15 kb											
Agilent technologies	Bioanalyzer 2100 platform 	G2939BA	-	-	+	+	+	+	+	-	+
	<ul style="list-style-type: none"> <li>Suitable for analysis of SMRTbell libraries up to ~15 kb</li> </ul>										
Agilent technologies	DNA 7500 Kit for Bioanalyzer 2100 	5067-1506	-	-	+	-	-	-	+	-	+
Agilent technologies	DNA 12000 Kit for Bioanalyzer 2100 	5067-1508	-	-	+	+	+	+	+	-	+
Agilent technologies	High Sensitivity Analysis Kit for Bioanalyzer 2100 	5067-4626	-	-	+	+	+	+	+	-	+

## DNA sizing analysis (cont.)

Vendor	Product	PN	WGS		VIRAL		RNA		META		TARG
			Large & small genome WGS	Ultra-low DNA input WGS	HiFiViral SARS-CoV-2	AAV	Iso-Seq Method	MAS-Seq single-cell Method	Full-Length 16S	Shotgun Meta-G	Amplicon Seq.
<b>Fragment Analyzer system for DNA sizing analysis up to ~50 kb</b>											
Agilent technologies	Fragment Analyzer System	M5310AA	-	-	+	+	+	+	+	-	+
											
	<ul style="list-style-type: none"> <li>Suitable for analysis of SMRTbell libraries up to ~50 kb</li> </ul>										
Agilent technologies	Large Fragment 50 kb Kit for Fragment Analyzer	DNF-464-0500	-	-	+	+	+	+	+	-	+
											
<b>Pippin Pulse system for DNA sizing analysis up to ~100 kb</b>											
Sage science	Pippin Pulse System	PPI0200	+	-	-	-	-	-	-	+	-
											
	<ul style="list-style-type: none"> <li>Suitable for analysis of SMRTbell libraries and genomic DNA up to ~100 kb</li> </ul>										
Galileo bioscience	Gel Tank with Tray and Combs	80-1214	+	-	-	-	-	-	-	+	-
											

<p>Sage science</p> <p>10X KBB Buffer</p>  <p>KBB1001</p>	+	-	-	-	-	-	+	-	
<p>Lonza</p> <p>SeaKem® Gold Agarose</p>  <p>50150</p>	+	-	-	-	-	-	+	-	
CHEF Mapper XA system for DNA sizing analysis up to ~10 Mb									
<p>Bio-Rad</p> <p>Pulsed Field Gel Electrophoresis System: CHEF Mapper® XA</p>  <ul style="list-style-type: none"> <li>• Suitable for analysis of SMRTbell libraries and genomic DNA up to ~10 Mb</li> </ul> <p>170-3670</p>	+	-	-	-	-	-	+	-	
<p>Bio-Rad</p> <p>10X TBE Electrophoresis Buffer</p>  <p>1610770</p>	+	-	-	-	-	-	+	-	
<p>Bio-Rad</p> <p>Pulsed Field Certified Agarose</p>  <p>1620137</p>	+	-	-	-	-	-	+	-	


## B. DNA quantification analysis

Vendor	Product	PN	WGS		VIRAL		RNA		META		TARG
			Large & small genome WGS	Ultra-low DNA input WGS	HIV/Viral SARS-CoV-2	AAV	Iso-Seq Method	MAS-Seq single-cell Method	Full-Length 16S	Shotgun Meta-G	Amplicon Seq.
<b>Fluorometric assay systems</b>											
Thermo Fisher Scientific	Qubit 4 Fluorometer	Q33238	+	+	+	+	+	+	+	+	+
	 <ul style="list-style-type: none"> <li>Fluorometric-based assay method</li> <li>Enables highly accurate and sensitive quantitation of dsDNA</li> </ul>										
Thermo Fisher Scientific	Qubit Assay Tubes	Q32856	+	+	+	+	+	+	+	+	+
											
Thermo Fisher Scientific	Qubit 1X dsDNA High Sensitivity (HS) Assay Kit	Q33230	+	+	+	+	+	+	+	+	+
											

## C. DNA purity analysis

Vendor	Product	PN	WGS	VIRAL	RNA	META	TARG
			Large & small genome WGS	HIV/Viral SARS-CoV-2	Iso-Seq Method	Full-Length 16S	Amplicon Seq.
			Ultra-low DNA input WGS	AAV	MAS-Seq single-cell Method	Shotgun Meta-G	

### Spectrophotometric assay systems

Thermo Fisher Scientific	 <p>NanoDrop™ 2000/2000c Spectrophotometer</p>	ND-2000	+	+	+	+	+	+	+
--------------------------	--	---------	---	---	---	---	---	---	---



## D. DNA shearing

PacBio highly recommends using the Megaruptor 3 system (Diagenode) for DNA shearing in HiFi whole genome sequencing (WGS) sample preparation workflows. Use of other compatible equipment options that are not specifically designated as “Highly Recommended” may lead to lower HiFi data yields and/or lower HiFi data quality, or may require adjustment of input genomic DNA amounts (depending on the sample genome size and target coverage requirements) for HiFi WG projects to accommodate the DNA sizing QC steps. When a Megaruptor 3 System is unavailable, the Covaris g-TUBE presents an alternative shearing method that does not require instrumentation beyond a standard microcentrifuge – see [Technical note: Covaris g-TUBE DNA shearing for SMRTbell prep kit 3.0 \(102-326-501\)](#) for more information. For more detailed guidance regarding specific equipment recommendations, refer to the appropriate [PacBio Procedure & checklist](#).

Vendor	Product	PN	WGS	VIRAL	RNA	META	TARG
			Large & small genome WGS	HiFi/Viral SARS-CoV-2	Iso-Seq Method	Full-Length 16S	Amplicon Seq.
			Ultra-low DNA input WGS	AAV	MAS-Seq single-cell Method	Shotgun Meta-G	

Megaruptor 3 system for shearing DNA to 5 – 100 kb fragment sizes

Highly recommended	Megaruptor 3 System			WGS		VIRAL		RNA		META		TARG
	Diagenode		B06010003	+	+	-	-	-	-	-	+	-
		• Includes 8-sample cassette										
	Megaruptor 3 cassette for 12 samples			WGS		VIRAL		RNA		META		TARG
	Diagenode		B06010020	+	+	-	-	-	-	-	+	-
Megaruptor 3 Shearing Kit			WGS		VIRAL		RNA		META		TARG	
Diagenode		E07010003	+	+	-	-	-	-	-	+	-	
Megaruptor 3 DNAFluid+ Kit			WGS		VIRAL		RNA		META		TARG	
Diagenode		E07020001	+	-	-	-	-	-	-	+	-	

# DNA shearing (cont.)

Vendor	Product	PN	WGS	VIRAL	RNA	META	TARG
			Large & small genome WGS	HIV/Viral SARS-CoV-2	Iso-Seq Method	Full-Length 16S	Amplicon Seq.
			Ultra-low DNA input WGS	AAV	MAS-Seq single-cell Method	Shotgun Meta-G	

g-TUBE devices for shearing DNA to 6 – 20 kb fragment sizes

Vendor	Product	PN	WGS	VIRAL	RNA	META	TARG
Covaris	g-TUBE 	520079	+	-	-	-	-
			+	-	-	+	-

## E. DNA size selection

In Procedure & checklist – Preparing whole genome and metagenome sequencing libraries using SMRTbell prep kit 3.0 ([102-166-600](#)), AMPure PB bead size selection is the recommended default method to remove short DNA fragments and enrich for the long fragments that are most valuable for downstream HiFi data analysis. Although size-selection beads have many advantages, automated DNA size selection systems that utilize gel cassettes offer more flexibility in defining a size cutoff. This section lists three automated DNA size selection tools that may **optionally** be employed for performing size selection on SMRTbell libraries for HiFi WGS applications. Note that use of these tools requires higher input DNA amounts ( $\geq 1.5 \mu\text{g}$ /SMRT Cell 8M or  $\geq 3 \mu\text{g}$ /Revio SMRT Cell). For more information, refer to **Technical Note: Alternative Size Selection Methods for SMRTbell Prep Kit 3.0** ([102-326-503](#)), which provides detailed guidance for size selection of WGS libraries using automated DNA size selection tools.

Vendor	Product	PN	WGS	VIRAL	RNA	META	TARG
			Large & small genome WGS				
			Ultra-low DNA input WGS				
				HiFiViral SARS-CoV-2			
				AAV			
					Iso-Seq Method		
					MAS-Seq single-cell Method		
						Full-Length 16S	
						Shotgun Meta-G	
							Amplicon Seq.

### SageELF system for DNA size selection 100 bp – 40 kb

Vendor	Product	PN	WGS	VIRAL	RNA	META	TARG
Sage science	<b>SageELF System</b>  <ul style="list-style-type: none"> <li>Separates DNA samples by size, and then simultaneously fractionates the whole sample into 12 fractions</li> <li>One sample is fractionated on a single precast agarose cassette, and one or two cassettes may be processed at one time</li> </ul>	ELF0001	+ -	- -	- -	- -	- -
Sage science	<b>0.75% Agarose Cassette for SageELF</b> 	ELD7510	+ -	- -	- -	- -	- -

## DNA size selection (cont.)

Vendor	Product	PN	WGS	VIRAL	RNA	META	TARG
			Large & small genome WGS	HIV/Viral SARS-CoV-2	Iso-Seq Method	Full-Length 16S	Amplicon Seq.
			Ultra-low DNA input WGS	AAV	MAS-Seq single-cell Method	Shotgun Meta-G	



### PippinHT system for DNA size selection 100 bp – 50 kb

Vendor	Product	PN	Large & small genome WGS	Ultra-low DNA input WGS	HIV/Viral SARS-CoV-2	AAV	Iso-Seq Method	MAS-Seq single-cell Method	Full-Length 16S	Shotgun Meta-G	Amplicon Seq.
Sage science	<b>PippinHT System</b>  <ul style="list-style-type: none"> <li>Separates DNA samples by size, and collects all fragments above a size threshold set by the user</li> <li>Up to 10 samples (plus a Size Marker) can be fractionated on a single precast agarose cassette, and up to two cassettes (20 samples) may be processed at one time</li> </ul>	HTP0001	+	+	-	-	-	-	-	-	-
Sage science	<b>0.75% Agarose Cassette for PippinHT (with Marker 75E)</b> 	HPE7510	+	+	-	-	-	-	-	-	-





## DNA size selection (cont.)

Vendor	Product	PN	WGS	VIRAL	RNA	META	TARG
			Large & small genome WGS	HiFiViral SARS-CoV-2	Iso-Seq Method	Full-Length 16S	Amplicon Seq.
			Ultra-low DNA input WGS	AAV	MAS-Seq single-cell Method	Shotgun Meta-G	




PippinHT system for DNA size selection 100 bp – 50 kb

Vendor	Product	PN	WGS	VIRAL	RNA	META	TARG		
Sage science	<b>BluePippin System</b>  <ul style="list-style-type: none"> <li>Separates DNA samples by size, and collects all fragments above a size threshold set by the user</li> <li>Up to four samples (plus a Size Marker) can be fractionated on a single precast agarose cassette, and only one cassette may be processed at one time</li> </ul>	BLU0001	+	+	-	-	-	-	-
Sage science	<b>0.75% Agarose Cassette for BluePippin (with Marker S1)</b> 	BLF7510	+	+	-	-	-	-	-

## F. General laboratory equipment

Vendor	Product	PN	WGS		VIRAL		RNA		META		TARG
			Large & small genome WGS	Ultra-low DNA input WGS	HiFiViral SARS-CoV-2	AAV	Iso-Seq Method	MAS-Seq single-cell Method	Full-Length 16S	Shotgun Meta-G	Amplicon Seq.
<b>Benchtop microcentrifuges</b>											
	See recommended models below										
	<b>MiniSpin® Plus</b>										
Eppendorf		022620100	+	+	+	+	+	+	+	+	+
	<b>Centrifuge 5425</b>										
		5405000441									
<b>Mini microcentrifuges</b>											
	<b>Mini Microcentrifuge</b>										
VWR		10153-842	+	+	+	+	+	+	+	+	+
<b>Plate centrifuges</b>											
	<b>Plate Centrifuge</b>										
Eppendorf		EP022628168	+	+	+	+	+	+	+	+	+

## General laboratory equipment (cont.)

Vendor	Product	PN	WGS		VIRAL		RNA		META		TARG
			Large & small genome WGS	Ultra-low DNA input WGS	HIF/Viral SARS-CoV-2	AAV	Iso-Seq Method	MAS-Seq single-cell Method	Full-Length 16S	Shotgun Meta-G	Amplicon Seq.
<b>Vortex mixers</b>											
VWR	Digital Vortex Mixer (or equivalent) 	10153-842	+	+	+	+	+	+	+	+	+
VWR	Microtube and microplate holder kit with insert retainer for vortex mixer 	Q33230	+	+	+	+	+	+	+	+	+
<b>Thermal mixers</b>											
Eppendorf	Eppendorf ThermoMixer® C (or equivalent)  <ul style="list-style-type: none"><li>Provides stable incubation temperatures for low-throughput SMRTbell library construction reactions using 1.5 mL or 2.0 mL tubes</li></ul>	2231000667	+	+	+	+	+	+	+	+	+

## General laboratory equipment (cont.)

Vendor	Product	PN	WGS	VIRAL	RNA	META	TARG
			Large & small genome WGS	HIV/Viral SARS-CoV-2	Iso-Seq Method	Full-Length 16S	Amplicon Seq.
			Ultra-low DNA input WGS	AAV	MAS-Seq single-cell Method	Shotgun Meta-G	

### Thermal cyclers

SimpliAmp Thermal Cycler  
(or equivalent)



Thermo  
Fisher  
Scientific

A24811

- Provides stable incubation temperatures for high-throughput SMRTbell library construction reactions using microplates or 0.2 mL PCR tubes
- Controllable heated lid preferred
- 96-well capacity recommended for high-throughput environments

+	+	+	+	+	+	+	+	+





## General laboratory equipment (cont.)

Vendor	Product	PN	WGS Large & small genome WGS Ultra-low DNA input WGS	VIRAL HIV/Viral SARS-CoV-2 AAV	RNA Iso-Seq Method MAS-Seq single-cell Method	META Full-Length 16S Shotgun Meta-G	TARG Amplicon Seq.
--------	---------	----	--	--------------------------------------	---	---	-----------------------


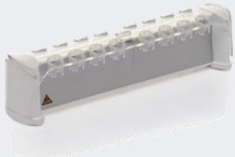
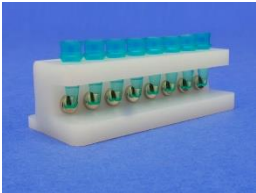
Heat sealer (Required for Sequel IIe system sequencing workflows ONLY. A heat sealer is NOT required for Revo system workflows.)

Thermo Fisher Scientific	ALPS 50 V-Manual Heat Sealer (or equivalent) 	AB-1443A	+	+	+	+	+	+	+
<ul style="list-style-type: none"> <li>Heat sealer should be capable of maintaining temperatures between 160°C to 178°C. Heat sealers exceeding this range may have negative impacts on sequencing results.</li> </ul>									

### Pipettes and tips

Gilson	P2, P10, P20, P100, P200, P1000 Pipettes 	F144801 F144802 F123600 F123615 F123601 F123602	+	+	+	+	+	+
Gilson	Filter Tips for Pipettes 	F1731031 F1733031 F1735031 F172613						

## General laboratory equipment (cont.)

Vendor	Product	PN	WGS		VIRAL		RNA		META		TARG
			Large & small genome WGS	Ultra-low DNA input WGS	HIV/Viral SARS-CoV-2	AAV	Iso-Seq Method	MAS-Seq single-cell Method	Full-Length 16S	Shotgun Meta-G	Amplicon Seq.
<b>Ice makers</b>											
VWR	Flake Ice Maker with Bin (or equivalent) 	89166-534	+	+	+	+	+	+	+	+	+
<b>Magnetic separator racks</b>											
Thermo Fisher Scientific	DynaMag™-2 Magnet Separation Stand for 1.5–2 mL Microcentrifuge Tubes (or equivalent) 	12321D	+	+	+	+	+	+	+	+	+
V & P Scientific, Inc.	Low Profile Magnetic Separation Stand for 0.2 mL, 8-Strip PCR Tubes (or equivalent) 	VP772F4-1	+	+	+	+	+	+	+	+	+

## General laboratory equipment (cont.)

Vendor	Product	PN	WGS		VIRAL		RNA		META		TARG
			Large & small genome WGS	Ultra-low DNA input WGS	HIV/Viral SARS-CoV-2	AAV	Iso-Seq Method	MAS-Seq single-cell Method	Full-Length 16S	Shotgun Meta-G	Amplicon Seq.






### Lab refrigerators (4°C)

VWR	Standard Series Lab Refrigerator (or equivalent) 	76314-274	+	+	+	+	+	+	+	+	+
-----	--	-----------	---	---	---	---	---	---	---	---	---

### Lab freezers (-20°C)

VWR	Standard Series Lab Freezer with Manual Defrost (or equivalent) 	76314-276	+	+	+	+	+	+	+	+	+
-----	--	-----------	---	---	---	---	---	---	---	---	---

## G. General laboratory reagents and consumables

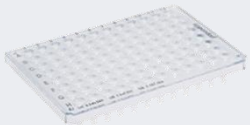

Vendor	Product	PN	WGS		VIRAL		RNA		META		TARG
			Large & small genome WGS	Ultra-low DNA input WGS	HIV/Viral SARS-CoV-2	AAV	Iso-Seq Method	MAS-Seq single-cell Method	Full-Length 16S	Shotgun Meta-G	Amplicon Seq.
<b>Tubes*</b>											
USA Scientific	0.2 mL TempAssure PCR 8-tube strips (or equivalent) 	1402-4708	+	+	+	+	+	+	+	+	+
Eppendorf	Eppendorf DNA LoBind Tube 0.5 mL, PCR clean 	022431005	+	+	+	+	+	+	+	+	+
Eppendorf	Eppendorf DNA LoBind Tube 1.5 mL, PCR clean 	022431021	+	+	+	+	+	+	+	+	+
Eppendorf	Eppendorf DNA LoBind Tube 2.0 mL, PCR clean 	022431048	+	+	+	+	+	+	+	+	+
VWR	Falcon™ Conical Centrifuge Tubes, PP (Polypropylene), 15 mL / 50 mL 	21008-936 21008-940	+	+	+	+	+	+	+	+	+

\* Corning® Axygen® consumables are not compatible with SMRT sequencing and should not be used in the preparation of PCR amplicons or SMRTbell® templates.

© 2016 – 2023 PacBio. All rights reserved. For research use only. Not for use in diagnostic procedures.

PN 100-815-000 REV08 MAY2023

## General laboratory reagents and consumables (cont.)

Vendor	Product	PN	WGS		VIRAL		RNA		META		TARG
			Large & small genome WGS	Ultra-low DNA input WGS	HIV/Viral SARS-CoV-2	AAV	Iso-Seq Method	MAS-Seq single-cell Method	Full-Length 16S	Shotgun Meta-G	Amplicon Seq.
<b>Ethyl alcohol, pure</b>											
Sigma-Aldrich	Ethyl Alcohol, Pure, 200 Proof, Molecular Biology or ACS Reagent Grade  <b>CH<sub>3</sub>CH<sub>2</sub>OH</b>	459844	+	+	+	+	+	+	+	+	+
<b>Molecular biology grade water</b>											
Teknova	Nuclease-Free Water, for Molecular Biology (or equivalent)  <b>H<sub>2</sub>O</b>	W3330	+	+	+	+	+	+	+	+	+
<b>Sample and buffer plate accessories for Agilent Fragment Analyzer and Femto Pulse systems</b>											
Eppendorf	twin.tec® PCR Plate 96, semi-skirted, 250 µL, PCR clean, colorless plates  	951020303	+	+	+	+	+	+	+	+	+
<ul style="list-style-type: none"> <li>Recommended sample plate for Agilent Fragment Analyzer &amp; Femto Pulse systems</li> </ul>											
Thermo Fisher Scientific	Fisherbrand™ 96-Well DeepWell™ Polypropylene Microplates, 1 mL  	12-566-120	+	+	+	+	+	+	+	+	+
<ul style="list-style-type: none"> <li>Recommended buffer plate for Agilent Fragment Analyzer &amp; Femto Pulse systems</li> </ul>											

---

Revision history (description)	Version	Date
Removed No-Amp SMRT sequencing application category and added clarifying note that a heat sealer tool is not required for Revio system sequencing workflows. Added Megaruptor 3 cassette for 12 samples and Megaruptor 3 DNAFluid+ Kit to list of recommended DNA shearing materials.	08	May 2023

Research use only. Not for use in diagnostic procedures. © 2016 – 2023 Pacific Biosciences of California, Inc. (“PacBio”). All rights reserved. Information in this document is subject to change without notice. PacBio assumes no responsibility for any errors or omissions in this document. Certain notices, terms, conditions and/or use restrictions may pertain to your use of PacBio products and/or third-party products. Refer to the applicable PacBio terms and conditions of sale and to the applicable license terms at [pacb.com/license](https://pacb.com/license). Pacific Biosciences, the PacBio logo, PacBio, Circulomics, Omniome, SMRT, SMRTbell, Iso-Seq, Sequel, Nanobind, SBB, Revio, and Onso are trademarks of PacBio.