

Pippin Prep™

Automated Preparative Gel Electrophoresis

- Accurate DNA size selection with software
- Collects tight size distributions for NGS library construction
- Requires minutes of hands-on time



sage science

Pippin Prep™

Automated Preparative Gel Electrophoresis

DNA Size Selection System for NGS Library Construction

The Pippin Prep is a system that separates DNA using agarose gel electrophoresis, and then electroelutes DNA fractions according to user-input fragment size ranges. This virtually eliminates the labor required for manual prep gels, and provides a higher quality sample for NGS.

The system includes a disposable five-channel pre-cast gel cassette, and a computerized instrument which combines an electrophoresis platform with a fluorescence-based DNA detection unit. During operation, software uses the optical system and a DNA size ladder to determine the correct timing to extract a fragment size range directly from agarose. Extractions are undertaken by switching the electrophoretic path into an intersecting channel which collects the eluted fraction in a buffer-filled chamber. At the end of a run, DNA fractions are removed using a standard pipette.

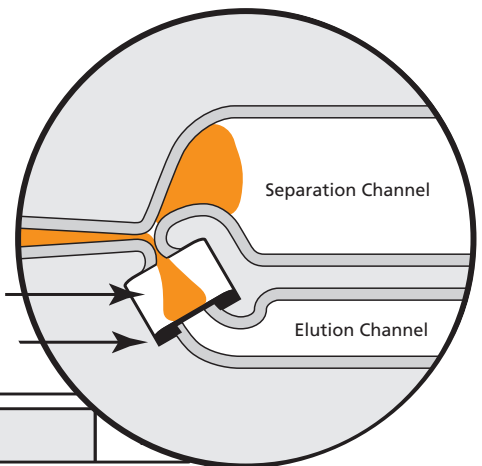


The Pippin Prep is equipped with five green LED/photodiode optical assemblies to detect DNA samples. Samples are not exposed to UV wavelengths.

Pre-Cast Gel Cassettes — Load and Go

Workflow involves loading samples, selecting size ranges in software, pressing "Start", and removal of fractions when the run is complete.

Runs are completed between 50 minutes and 2 hours. The Pippin Prep cassettes are pre-cast with agarose and use ethidium bromide fluorescence detection.



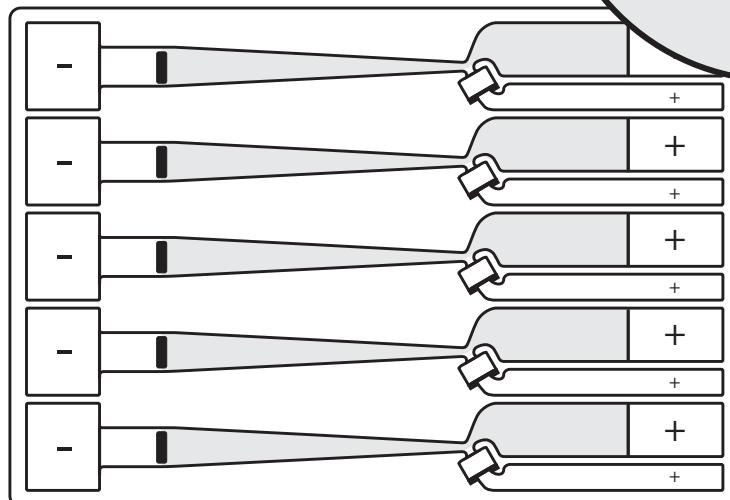
DNA size ladder

sample 4

sample 3

sample 2

sample 1



Each lane has switchable electrodes

Size Fractionation without the Hassle

Manual extraction of DNA from gels is a laborious and inexact technique. With the advent of next-gen sequencing technologies, the need for a more streamlined approach to DNA size selection has become particularly pressing. Sage Science has developed just such an alternative — one that generates superior samples in a fraction of the time.

	BP Target	BP Start	BP End
5	0	0	0
4	100	94	106
3	200	187	213
2	300	280	320
1	400	372	428

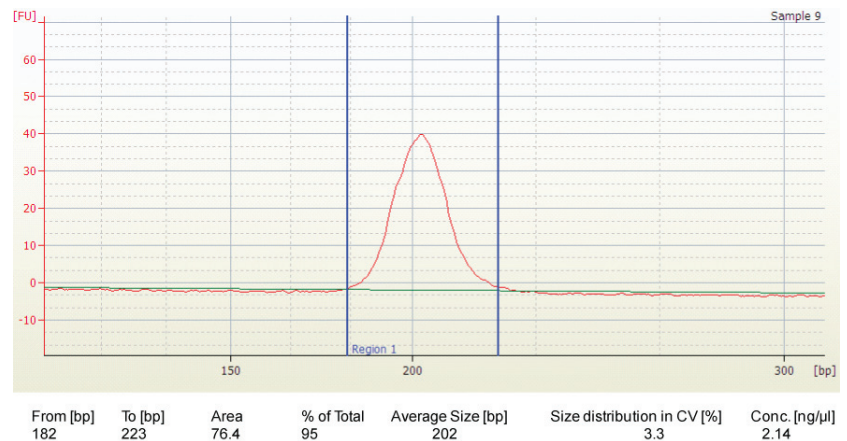
Extracting with the Pippin

Input the average fragment length into the software interface. The software will auto-fill the minimum "cut" range. For broader distributions, adjust the range values directly.

Value Across the NGS Process Map

- Tight size distributions → detect structural variation with high confidence
- Eliminates cross contamination → call SNPs at lower coverage
- Efficient removal of adapter dimers → provides more usable reads per run
- High recoveries → less amplification → more diverse libraries

Bioanalyzer trace of a 200 base pair cut. Tight size ranges can be extracted accurately and reproducibly.



Ordering information

PIP0001 **Pippin Prep Instrument**
Includes monitor, keypad and mouse

CSD1510	1.5% Gel Cassette 10/pk
CSD1550	1.5% Gel Cassette 50/pk
CSD2010	2.0% Gel Cassette 10/pk
CSD2050	2.0% Gel Cassette 50/pk
CSD3010	3.0% Gel Cassette 10/pk
CSD3050	3.0% Gel Cassette 50/pk

Gel cassette orders include loading buffer, DNA size ladder, and additional running buffer

888.744.2244
www.sagescience.com



Gel Cassette Specifications

RECOMMENDED SAMPLE LOAD GUIDELINES	Sheared Genomic DNA	Restriction Fragments
Maximum Load:	10 µg	4 ug
Minimum Load with Optical Detection:	200 ng	5 ng
*Minimum Load without Optical Detection:	30 ng	1 ng

* Minimum recommendation is based on highly reproducible extractions, lower inputs may be recovered

1.5% Agarose Gel Cassettes

Target range:	300 – 1500 bp
Run times:	50 ± 5 minutes at 300 bp 115 ± 5 minutes at 1500 bp
Minimum size distribution as expressed by CV:	3.5% at 300 bp 9.0% at 1500 bp
Efficiency of Recovery:	>80% at 300 bp >50% at 1500 bp
Accuracy:	± 7%
Reproducibility:	± 7%

2.0% Agarose Gel Cassettes

Target range:	100 – 600 bp
Run times:	50 ± 5 minutes at 100 bp 115 ± 5 minutes at 600 bp
Minimum size distribution as expressed by CV:	3.5% at 100 bp 5.0% at 600 bp
Efficiency of Recovery:	>80% at 100 bp >50% at 600 bp
Accuracy:	± 5%
Reproducibility:	± 5%

3.0% Agarose Gel Cassettes — for micro RNA extractions

Target range:	50 – 300 bp
Run times:	50 ± 5 min at 50 bp 115 ± 5 minutes at 300 bp
Minimum size distribution as expressed by CV:	5.0% at 50 bp 3.5% at 300 bp
Efficiency of Recovery:	>80% at 50 bp >50% at 300 bp
Accuracy:	± 5%
Reproducibility:	± 5%

Specifications for Pippin Prep Instrument

Electrophoresis Voltage	100 V, constant
Typical current per sample lane	2.5 mA
Optical detection	530 nm excitation, 617 nm emission
Power Requirement	100-240 VAC, 2.5 A, 50-60 Hz
Weight	15 lbs
Dimensions	7" H X 11" W X 21" D

* Specifications subject to change without notice.

Check www.sagescience.com for the new gel formulations and availability of ethidium-free cassettes.

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