Cassette modifications for CHiP-seq

Optimal size resolution in 50-200 bp region

Closed elution modules:
Prevent electromigration flow into elution module.
Elution volume remains near 50 µl.
Permits long elution times without overflow or manual intervention.

Example of 3% cassette performance on gDNA

Pippin Prep for CHIP-seq: Consistent High Yields

Libraries produced with 3% cassette, no significant difference in Peak resolution.

Pippin Prep for CHIP-seq: Broad collections from gDNA

Processed 1000 bp reads into libraries with 0.75% cassette.

Pippin Prep for CHIP-seq: Long elution times

Elution volume remains near 50 µl.

Pippin Prep System Software: New Collection Modes

Selection Mode: by Selection Criteria, Time Criteria, Band

User validation of Pippin Prep for PE Libraries

Improvement in PE Library Quality

10-fold decrease in PCR enrichment cost due to improved yield.

New Pippin Prep 3% cassette: miRNA libraries

0.75% Pippin Prep cassette: miRNA libraries

Size fractionation in NGS Applications

Pippin Prep for NGS Applications

Application

Cassette types

PE libraries 2%
2% Ethidium Free (new Feb. 2011)

Small RNA libraries 3% (new Feb. 2011)

1st Mate-pair 0.75% (new Feb. 2011)

CHIP-seq, 2nd Mate-pair 2%, 1.5% cassettes with Closed elution modules (Nov. Mar. 2011)

Library contains:

Concentrations:

Electrophoresis power supply
DNA detection optics
Electrode array
Single-board PC with control software

Disposable Agarose Gel Cassettes

Free of potentially hazardous chemicals.
DNA eluted into collection chamber filled with buffer.

Pippin Prep 1.5% cassette: Low CVs out to 1.5 kb

Pippin Prep 1.5% cassette: Low CVs out to 1.5 kb

Peak = Collect first band encountered in sample after BP threshold
Time = Collect between Tstart and Tend
Range = Collect between BPstart and BPend value
Tight = Capture tightest band centered on BPtarget value

Input DNA

5 µg lane input. CVs ~10-15%