LabChip XT

LabChip XT DNA 750 Assay Kit

The LabChip XT DNA 750 Hi Res Kit is for use on the LabChipXT system. It provides a fast and easy way to analyze and fractionate DNA samples ranging from 50 to 750 base pairs with improved collection efficiency (>50%) and superior sensitivity, detecting less than 25ng of sheared sample. Fractionated samples are delivered in a sequencing compatible buffer. Performing nucleic acid fractionation with the DNA 750 Hi Res Kit saves time and money by reducing wasted "non-align" reads with tight size selection and increase average read length by excluding shorter fragments.

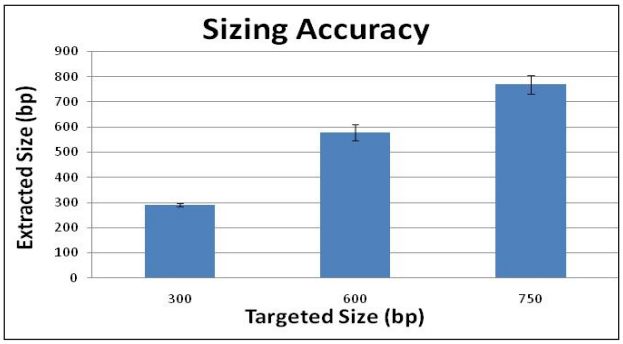
The LabChip XT fractionation system performs fast, automated nucleic acid sizing accurately and reproducibly. The XT replaces the traditional gel method and sizes up to four samples in less than 30 minutes. Manual methods introduce run-to-run variability, resulting in less accurate sizing and variable collection widths. The XT improves laboratory efficiency and provides a level of sizing accuracy that is difficult to obtain using manual methods. Data is displayed digitally and non-fractionated sample can be recollected and used at another time.

Features

- No post purification- Sample is delivered in a sequencing compatible buffer
- Fast and reproducible size selection
- Fast separation time –up to 750bp in 30 minutes or less
- Sample tracking via barcode
- Up to 4 samples processed simultaneously per chip
- Completely independent channels minimizes potential for cross contamination

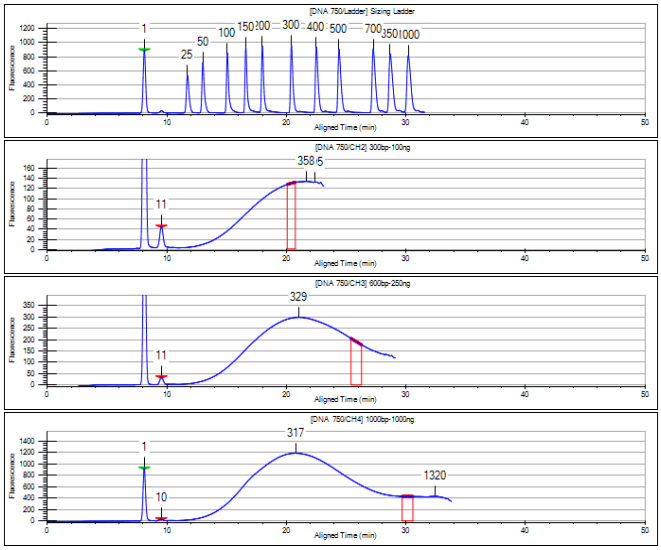
Accurate and Reproducible Size Fractionation

The LabChip XT DNA 750 Assay Analysis calculates the size of DNA fragments during the run to provide accurate extraction of the desired fragment sizes. The migration time of the sizing ladder are used to map migration time to size. The ladder and sample markers are aligned to the added internal marker, adjusting for any differences in electrical field. Using a ladder and internal marker as a reference, the most accurate sizing is achieved. Extracted sizes are within 10% of the targeted size.



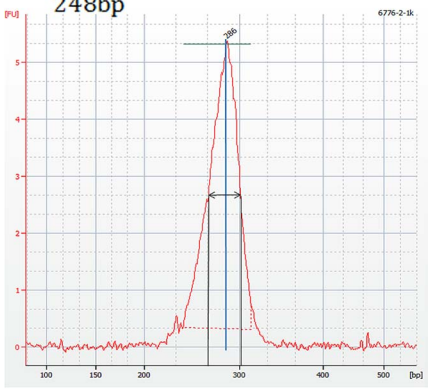
Sequencing Ready Material in Less than 30 Minutes

Since each channel operates independently of each other, a different size can be selected from each sample. Extractions are rapid, and sequencing ready material can be collected from the chip is under 30 minutes. No additional purification needed!



Tight Size Selection for Paired-End Sequencing

$$\frac{33bp}{248bp} \times 0.425 \times 100\% = 4.9\%$$



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A tightly sized DNA library gives more uniform cluster sizes during cluster generation and produces better results when trying to identify structural variants (Insertions, Deletions, Inversions, Translocations). Extractions from the LabChip XT achieve minimum distributions as low as 5% CV (as measured by Full Width Half Max signal, FWHM).

$$\%\ CV = \frac{FWHM}{\text{median size}} \times 0.425 \times 100\%$$

LabChip XT DNA 750 Assay Kit Specifications

Number of Samples Per Chip	3 with ladder, 4 with software ladder
DNA size range*	50 to 750 bp *Up to 1000bp with reduced resolution
Minimum size distribution as expressed by (CV)	5% at 300 bp
Maximum load capacity	1 µg of sheared genomic DNA, 50 ng per fragment
Minimum load capacity for optical detection	25 ng sheared genomic, 0.5 ng per fragment
Input Volume	10 µL recommended
Output Volume	20 µL recommended
Time to 750 bp	<30 minutes

Ordering Information: LabChip XT DNA 750 Assay Kit P/N 760541

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