Automated DNA sample analysis.

Key features

- DNA fragment size, concentration and molarity
- New small batch protocols allow efficient use of reagents with smaller sample runs
- Flexible data display options – shown in choice of virtual gel electropherogram graph, or tabular formats
- RFID signature confirms compatibility of chip and assay selection
- Automated export of results

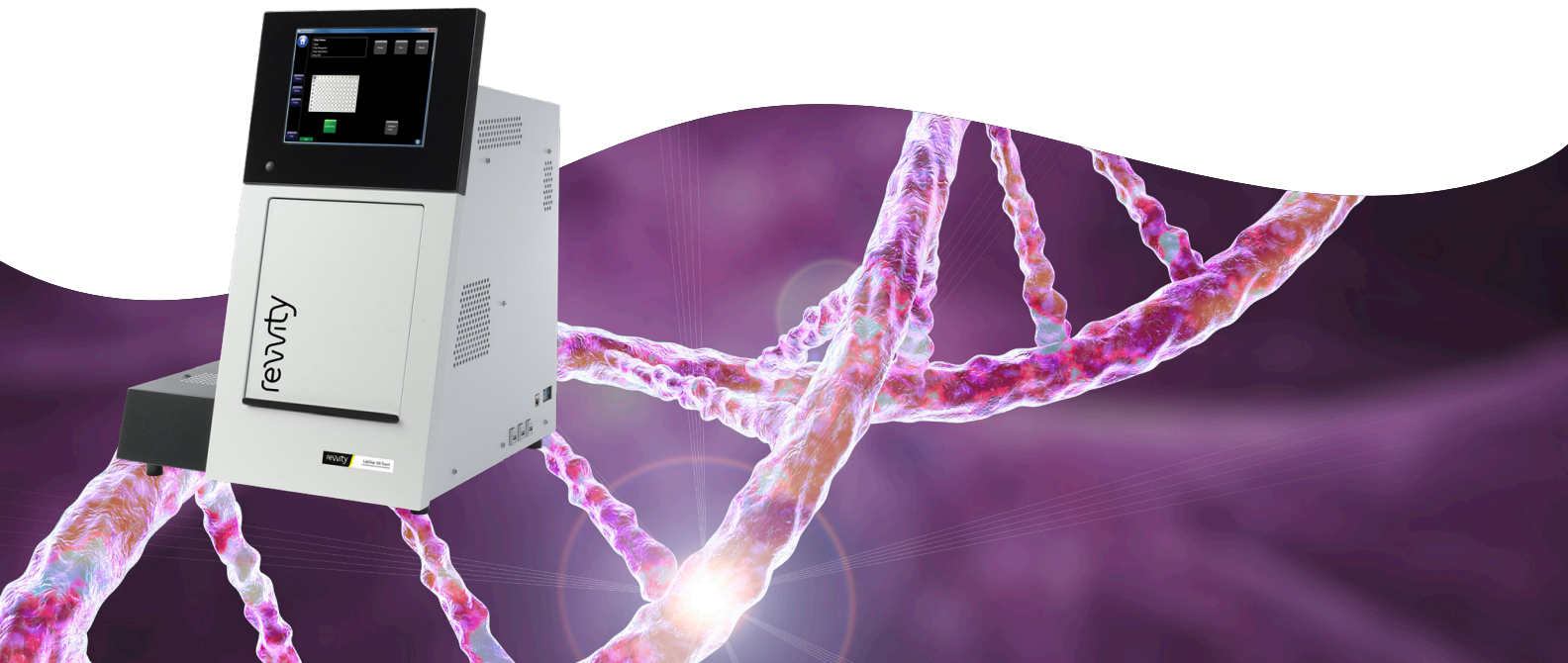
Introduction

LabChip™ GX Touch DNA assays provide fast and easy characterization of DNA samples from 25 - 12,000 base pairs in 30-60 seconds (gDNA integrity checking up to 40,000 base pairs) saving time and valuable resources for quantification and sizing analysis. With the new LabChip Plasmid DNA Assay it also separates the three primary isoforms of pDNA in under 2 minutes/sample while providing purity assessment.

How Does the LabChip Work?

LabChip GX Touch microfluidics technology automatically mixes the sample with an intercolating dye, electrophoretically separates and analyzes the DNA sample. Instrument optics detect the laser-induced fluorescent signal. System software automatically analyzes the data and determines fragment size and concentration using ladder and marker calibration standards. Digital data results are immediately available for review or reporting in virtual gel, electropherogram graph or table summary form.

LabChip® GX Touch™ Nucleic Acid Analyzer



Specifications and ordering information for LabChip GX Touch kits

	DNA 1K	DNA 5K	DNA 12K	Genomic DNA
Sizing Range	25 bp – 1000 bp	100 bp – 5000 bp	100 bp –12000 bp	50 – 40,000+ bp
Sizing Resolution[1]	±15% from 25 –100 bp ±10% from 100 –150 bp ±5% from 150 – 600 bp ±10% from 600 –1000 bp	±15% from 100 –150 bp ±10% from 150 – 500 bp ±15% from 500 –1500 bp ±20% from 1500 –5000bp	±10% from 150 – 1000 bp ±15% from 1000 – 2000 bp ±20% from 2000 – 8000 bp ±25% from 100 – 150 bp ±25% from 800 – 12000 bp	
Sizing Accuracy	±10%	±10%	±10%	±20% (Up to 10 kb based on ladder)
Sizing Precision	5%	5%	5%	20% CV (Up to 10 kb based on ladder)
Linear Concentration Range	0.1 ng/µL – 50 ng/µL	0.25 ng/µL – 50 ng/µL Per fragment	0.25 ng/µL – 50 ng/µl per fragment	0.2 - 5 ng/µL 2.0 - 50 ng/µL (diluted)
Sensitivity	0.1 ng/µL	0.25 ng/µL	0.25 ng/µL	0.1 ng/µL
Maximum Total DNA Concentration	80 ng/µL total, 50 ng/µL per fragment	80 ng/µl total, 50 ng/µL per fragment	60 ng/µl total 50 ng/µL per fragment	
Quantifcation Precision	20% from 25 – 500 bp 10% from 500 – 1000 bp	±30%	20% CV from 100 – 5000 bp 25% CV from 5000 – 12000 bp	20% CV
Maximum Salt Concentration	125 mM	125 mM	125 mM	125 mM
Additives[2]	BSA/detergents should not exceed 0.05 mg/mL/0.01% (v/v)	BSA/detergents should not exceed 0.05 mg/mL/0.01% (v/v)	BSA/detergents should not exceed 0.05 mg/mL/0.01% (v/v)	BSA/detergents should not exceed 0.05 mg/mL/0.01% (v/v)
Chip Lifetime[3]	2000 samples/chip	2000 samples/chip	2000 samples/chip	500 samples/chip
Reagent Kit Lifetime	Up to 10 chip preps for HT or 20 chip preps for small batch runs	Up to 10 chip preps for HT or 20 chip preps for small batch runs	Up to 10 chip preps for HT or 20 chip preps for small batch runs	Up to 5 chip preps for HT or 10 chip preps for small batch runs
Max Samples per Chip Prep	384 samples for HT or 48 samples for LT	384 samples for HT or 48 for LT	384 samples for HT or 48 for LT	96 samples for HT or 48 for LT
Standard Assay: Specifcations as Defned for This Assay	DNA 1K Standard: For sizing of DNA 25 bp - 1000 bp analysis time/sample: 68 seconds	DNA 5K Standard: For sizing of DNA fragments in 100 to 5000 base pair range. analysis time/sample=48 sec	DNA 12K Standard: For sizing of DNA fragments in 100 to 12000 base pair range; analysis time/sample=68 sec	gDNA Quality Analysis time/sample =150 sec
Extra Assays			DNA 12K Extended Time: To be used only if peaks are cut off using the standard DNA 12K script (occurs in some high salt sample buffer; analysis time/sample=80 sec	

Specifications and ordering information for LabChip GX Touch kits (continued)

	NGS 3K	CFDNA	DNA High Sensitivity	pDNA
Sizing Range	50 bp – 3000 bp	50 bp – 7000 bp	50 bp – 5000 bp	3 -13 kbp
Sizing Resolution[1]	±10% from 200 – 1000 bp ±15% from 50 – 200 bp ±15% from 1000 – 2000 bp ±20% from 2000 – 3000 bp	mono, di tri nucleosomal cfDNA resolved from each other for range 50 - 800 bp	±5% from 100 – 500 bp ±10% from 50 – 100 bp ±10% from 500 – 1000 bp ± 15% from 1000 – 3000 bp, ± 22% from 3000 – 5000 bp	
Sizing Accuracy	±10%	±10% for mononucleosomal cfDNA ±15% for di/tri-nucleosomal cfDNA	±10%	< 15% (3-13 kbp, SC) < 20% (3-4 kbp, Linear) < 15% (4-10 kbp, Linear) < 20% (10-13 kbp, Linear)
Sizing Precision	5%	5%	5%	
Linear Concentration Range	5 pg/µL – 5000 pg/µL for smears	50 pg/µl – 1000 pg/µL starting concentration	20 pg/µL – 5000 pg/µL for smears	50 pg/µL - 500 pg/µL (Plasmid DNA)
Sensitivity	smears 25 pg/µL, fragments 2 pg/µL	50 pg/µL	Smears 5 pg/µL, fragments 500 pg/µL	25 pg/µL
Maximum Total DNA Concentration	5000 pg/µL total, 500 pg/µL Per fragment	2500 pg/µL total DNA	5 ng/µL, total 500 pg/µL Per fragment	500 pg/µL
Quantifcation Precision	20% CV	15% CV	20% CV	< 10% CV
Maximum Salt Concentration	125 mM	125 mM	125 mM	125 mM
Additives[2]	BSA/detergents should not exceed 0.05 mg/mL/0.01% (v/v)	BSA/detergents should not exceed 0.05 mg/mL/0.01% (v/v)	BSA/detergents should not exceed 0.05 mg/mL/0.01% (v/v)	BSA/detergents should not exceed 0.05 mg/mL/0.01% (v/v)
Chip Lifetime[3]	1000 samples/chip	1000 samples/chip	2000 samples/chip	480 samples
Reagent Kit Lifetime	Up to 10 chip preps for HT or 20 chip preps for small batch runs	Up to 10 chip preps for HTS or 20 chip preps for small batch runs	Up to 10 chip preps for HTS or 20 chip preps for small batch runs	
Max Samples per Chip Prep	192 samples for HT and 48 for LT	96 samples for HT and 48 for LT	96 samples for HT and 48 for LT	24 samples
Standard Assay: Specifcations as Defned for This Assay	DNA NGS 3K Standard: For sizing of DNA 50 - 3000 base pair range; analysis time/sample=60 seconds	cfDNA Standard: For sizing of DNA fragments iin 50 to 7000 base pair range. analysis time/sample=40 sec	DNA High Sensitivity Standard: for sizing of DNA fragments in 50 to 5000 base pair range; analysis time/sample=68 sec	

Ordering Information			
	Reagent Kit	LabChip - HT	LabChip - LT
DNA 1K	CLS760673	760517	CLS138948
DNA 12K	760569	760517	CLS138948
DNA High Sensitivity	CLS760672	760517	CLS138948
Genomic DNA	CLS760675	760517	CLS138948
DNA 5K	CLS760685	CLS144006	CLS145331
cfDNA	CLS960013	CLS144006	CLS145331
DNA NGS 3K	CLS157242	760435*	CLS138949
Plasmid DNA	CLS160450	CLS160538	

* Available in economy pack , PN 760527

[1]Resolution is defined as half height or better separation of two peaks. Actual separation performance can depend on the sample and application. Peaks that are resolved less than half height can still be accurately identified by the system software.

[2]Higher concentrations of BSA and detergents can result in chip failure. In addition, inorganic an organic solvents are not compatible with the DNA LabChip.

[3]Expected chip lifetime is based on use under normal laboratory conditions and adherence to Revvity preparation protocols, sample guidelines and storage conditions. Individual laboratory results may vary.

For more information, please visit our website at www.revvity.com

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