

LabChip | Protein Express Version 2 Assay

Automated Protein Sizing and Quantitation

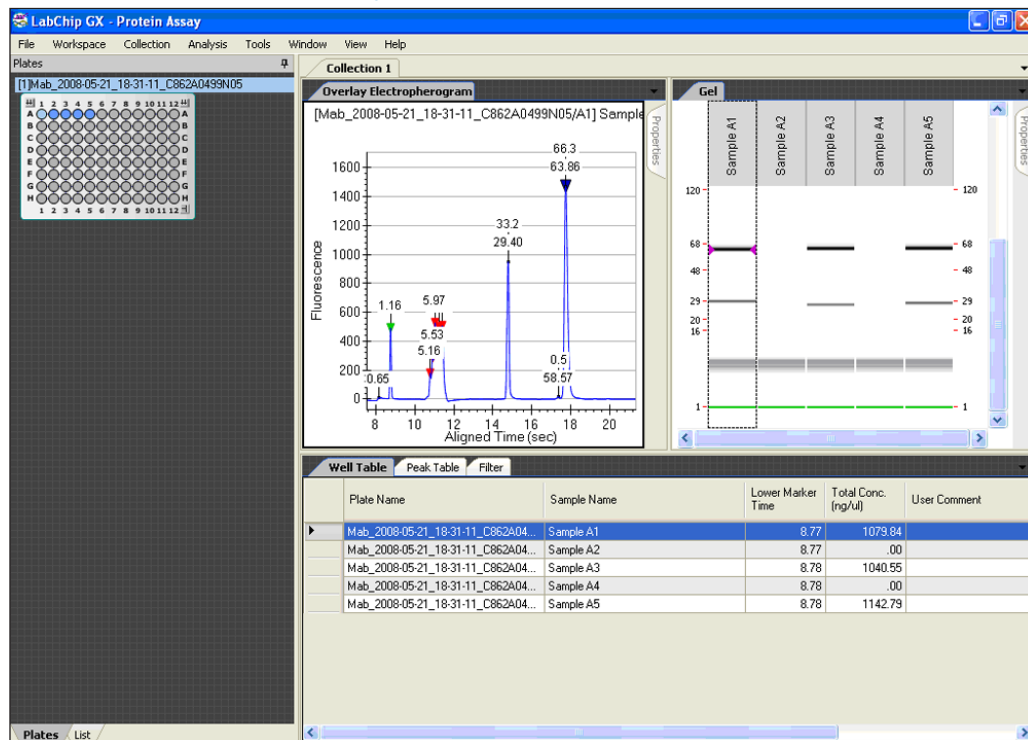
The Protein Express Version 2 assay provides a fast and easy way to analyze protein samples ranging in size from 14 to 200kDa. Performing protein sample analysis with the Protein Express assay saves time and money by automating steps for sample loading, staining, destaining, and quantitation.

The LabChip GXII Electrophoresis System uses a single sipper microfluidic chip to aspirate protein samples directly from 96- or 384-well plates. The microfluidics chip technology automatically stains, destains, electrophoretically separates, and analyzes the protein samples. The instrument optics detect the laser-induced fluorescent signal. System software automatically analyzes the data and provides the user with relative protein concentration, molecular size, and percent purity 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.

Features

- Save Time! – High throughput provides complete automated analysis of proteins in about 40 seconds.
- Save Money! – Automated analysis procedure provides significant cost savings relative to the materials and labor required to run manual gels for protein analysis.
- Automated exporting of results.
- Digital format facilitates review, export, and archiving of data.
- Extended Workflow profile allows chip to be loaded once for support of sample processing anytime within an 8-hour window.
- Flexible data display options - Results shown in your choice of virtual gel, electropherogram graph, or tabular formats.
- RFID signature confirms compatibility of chip and assay selection.

LabChip HT Protein Assay Data View



The figure above shows the graphics user interface for the LabChip GX software. Results can be displayed and exported as virtual gels, electropherograms, or data tables. The LabChip GX software reports relative concentration, size, and percent purity of proteins.

Compatible Buffers, Salts and Additives

Buffer and Salts	Concentration Limit	Additives	Concentration Limit
Tris Chloride	250 mM	Octyl Glucoside	2.5%
Tris Glycine	250 mM	Pluronic F68	0.1%
Hepes	500 mM	Sarcosyl	10%
PBS	8 X	CHAPS	0.5%
Sodium Citrate	150 mM	Tween 20	0.8%
Sodium Phosphate	250 mM	Triton X-100	0.6%
Sodium Acetate	600 mM	SDS	2%
Sodium Chloride	1000 mM	Zwittergent 3-14	0.4%
Sodium Azide	6%	PEG 3350	1%
Sodium Hydroxide	500 mM	Glycerol	30%
Potassium Chloride	900 mM	Urea	8 M
Ammonium Bicarbonate	1000 mM	Sucrose	1 M
Magnesium Chloride	300 mM	DMSO	25%
Imidazole	900 mM	EDTA	100 mM
PhosphoSafe		Ethanol	50%
BugBuster	2.5 X		
BPER			
POP Culture			
Insect POP Culture			

Incompatible Buffers, Salts and Additives

Buffer and Salts	Concentration Limit	Additives	Concentration Limit
RIPA	All	-	-

HT Protein Express

Sizing Range	14 to 200 kDa
Sizing Accuracy	± 20%
Sizing CV	± 10%*
Resolution [1]	± 10% difference in MW across the sizing range, 50% valley Resolution is comparable to a 10 cm 4-20% SDS-PAGE gel*
Linear Dynamic Range	5 - 2000 ng/μL*
Relative Concentration CV	30% up to 120 kDa relative to the ladder* Above 120 kDa, quantitation is not specified
Maximum total Protein Concentration	10 mg/ml
Sensitivity	~ 5 ng/μL per protein (CA)*
Maximum Salt Conc./pH range	1M NaCl/ pH 6.5 to 8.5
Samples per Chip Prep	288 samples (three 96-well plates)
Reagent Kit Lifetime	3 Chip preps
Chip lifetime [2]	288 samples (three 96-well plates)
Standard Assay - Specifications are defined for these Assays	<p>HT Protein Express 100 - analysis of proteins from 14 to 100kDa (Analysis timer per sample - 34 seconds)</p> <p>HT Protein Express 200 - analysis of proteins from 14 to 200kDa (Analysis timer per sample - 41 seconds)</p> <p>HT Protein Express 100/200 - The protein 100 assay should be used for sizing proteins 100 kDa and smaller. The protein 200 assay should be used for sizing proteins between 100 and 200 kDa.</p> <p>HT Protein Express 100/200 High Sensitivity - The HT-Protein Express 100/200 High Sensitivity scripts provide 2X the sensitivity of the standard scripts but, the sizing is less robust to varying buffer conditions.</p> <p>High Molecular weight - for analysis of proteins up to 600kDa (Analysis time per sample- 69 seconds)</p>
Extra Assays	

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

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Ordering Information:

Protein Express Version 2 LabChip Kit P/N 760431
Protein Express Reagent Kit P/N 760328

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