

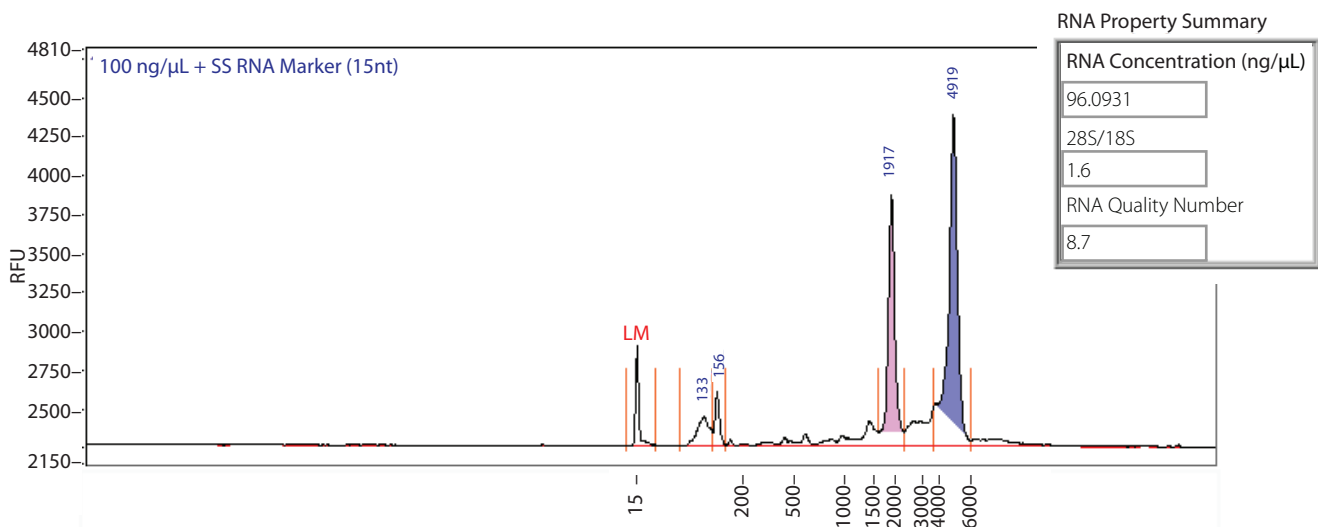
TOTAL RNA ANALYSIS

Fragment Analyzer™ Automated CE System

Check quantity and quality of total RNA with one instrument.

RNA is the starting material for many molecular techniques including gene expression studies, gene cloning and sequencing (transcriptomics). Understanding the quality/integrity of the total RNA is important for successful results generation because low quality or degraded RNA can lead to sub optimum, inconsistent or misleading results.

With advances in throughput and sensitivity of many molecular technologies, the ability to evaluate more RNA samples in less time and with less effort becomes critical. Manual lab-on-chip instruments lack the throughput and automation necessary to keep pace. However, hundreds of RNA laboratories worldwide have seen how the Fragment Analyzer™ revolutionizes total RNA analysis with speed, accuracy and automation.



Total RNA separation: PROSize® software displays quality and quantity measurements as well as molarity and % of total.

The Fragment Analyzer™ analytical software package PROSize® provides key metrics including a method for scoring RNA integrity called the RNA Quality Number (RQN). Studies show a high correlation of RQN to other legacy integrity scoring methods, across a diverse set of organisms with varying quality.

The Fragment Analyzer™ provides accurate quantification of RNA. A comparison to standard laboratory Spectrophotometric and Fluorometric instruments is shown in the table below for a dilution series of rat liver Total RNA. Measurements are shown across the dynamic range of the Standard Sensitivity RNA Analysis Kit (DNF-471), which ranges from 5 ng/μL to 500 ng/μL input sample concentration.

Expected Concentrations	Spectrophotometry (UV-Vis)		Fluorometry		Fragment Analyzer™	
Conc. (ng/μL)	Conc. (ng/μL)		Conc. (ng/μL)		Conc. (ng/μL)	
	Avg	%CV	Avg	%CV	Avg	%CV
500	533.0	1.2	541.0	6.2	561.4	1.7
250	282.7	0.4	255.7	6.4	256.8	9.7
100	111.4	1.0	110.7	13.3	93.2	4.3
25	27.7	2.9	24.1	0.9	22.1	0.7
5	4.9	6.6	4.5	2.1	5.6	29.7

The High Sensitivity RNA Analysis Kit (DNF-472) is also available, which can analyze Total RNA from 50 pg/μL to 5000 pg/μL and mRNA from 250 pg/μL to 5000 pg/μL input concentrations.

Features and Benefits

Quality (Integrity) Analysis:

Analytical software metric provides RNA quality indicator which correlates to current industry practices.

High Sensitivity:

Detection limits as low as 50 pg/μL total RNA and 250 pg/μL messenger RNA.

Short Run Times:

Analyze 12 or 96 samples in about 40 minutes.

No Manual Priming:

Separation gel is automatically loaded into capillaries prior to each run.

No Chip Loading:

Universal capillary array handles multiple applications and requires no daily handling.

Simplified Sample Handling:

Requires a single dilution step into 96-well sample plate or strip tubes.

Flexible Platform Design:

Use the system for more than just RNA analysis. Gel kits for NGS library analysis, genomic DNA and dsDNA fragments, amplicon/PCR fragments and plasmids are available.

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