

Ultra-Sensitivity RNA Analysis Kit

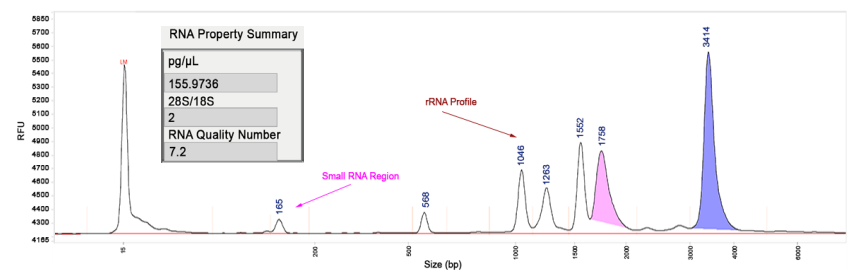
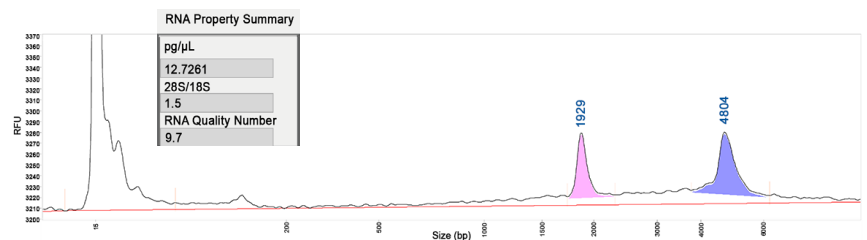
FEMTO *Pulse*™ Automated Pulsed-Field CE Instrument

Quantify and qualify RNA for downstream applications

As molecular biology advances at a breakneck pace and RNA sequencing becomes more accessible to the broader research community, the confident assessment of RNA size, quantity, and quality is of increasing importance. Sophisticated applications involving RNA have exacting requirements regarding the quality, concentration, and fragment size that are often challenging to measure with traditional methods, needlessly complicating researchers' workflows.

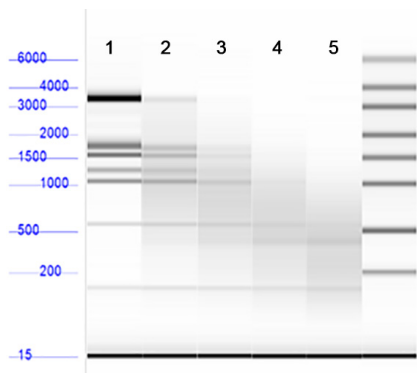
The **FP-1201 Ultra-Sensitivity RNA Analysis Kit** and the **FEMTO *Pulse*™ Automated Pulsed-Field CE Instrument** facilitate the accurate sizing, quantification, and qualification of RNA samples for NGS and molecular biology workflows. Conserve precious sample and quantify rare transcripts with unparalleled sensitivity.

The separation profiles of total RNA purifications differ based on the biological source. Significant variation is observed at all levels of biological hierarchy. This variation can complicate quality control analysis, requiring enhanced resolution to fully resolve individual peaks. The FP-1201 Ultra-Sensitivity RNA Analysis Kit for the FEMTO *Pulse* provides the required resolution to quantify and qualify RNA from all sources with equal ease and confidence.



The figure above shows murine (top) and Arabidopsis (bottom) total RNA, illustrating how total RNA profiles differ across the biological hierarchy. The RNA Property Summary, automatically provided by *PROSize*® Data Analysis Software, gives the measured concentration, ratio between major ribosomal peaks, and the RNA Quality Number (RQN), a sample quality metric. Total RNA samples were separated under standard conditions on the FEMTO *Pulse*™ Automated Pulsed-Field CE Instrument with the FP-1201 Ultra-Sensitivity RNA Analysis Kit.

Determining RNA quality is a crucial workflow step for any researcher performing RNA-Seq or various other applications. Degraded or low quality RNA is of limited use due to the loss of intact RNA fragments, including rare transcripts. To address this problem, the RNA Quality Number (RQN) has been validated and incorporated into the *PROSize*[®] Data Analysis Software. Total RNA samples are scored on a scale of 1 to 10, with larger numbers associated with higher quality RNA.



Sample	Degradation Time (90°C)	RQN
1	0 min	7.2
2	4 min	3.3
3	8 min	1.9
4	12 min	1.2
5	16 min	1.1

The digital gel image and the table above illustrate the association between RNA quality and the RQN. Identical total RNA samples were incubated at 90°C and collected every four minutes for a total of 16 minutes. Collected samples, including a total RNA sample that was not incubated at 90°C, were separated on the FEMTO *Pulse*[™] Automated Pulsed-Field CE Instrument with the FP-1201 Ultra-Sensitivity RNA Analysis Kit.

Features and Benefits	
<p>Enhanced Fragment Resolution Specially formulated gel improves separation of total and messenger RNA samples</p>	<p>Unparalleled High Sensitivity Conserve precious sample and quantify and qualify low concentration samples</p>
<p>Automated Operation Run up to 288 RNA samples without human intervention</p>	<p>Fast Separation Time Speed up analysis with complete separations in under an hour</p>

Specifications	Descriptions
Total RNA and mRNA Sizing Range	15nt – 6,000nt
Total RNA Detection Range	2.5 pg/μL – 250 pg/μL
Total RNA Quantification Range	15 pg/μL – 250 pg/μL
mRNA Detection Range	15 pg/μL – 500 pg/μL
mRNA Quantification Range	25 pg/μL – 500 pg/μL

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