



# Automating QIAseq® FastSelect™ RNA Library Kit on firefly®

## Introduction

The QIAseq® FastSelect™ RNA Library kits from QIAGEN enable 1 day, sample-to-sequencer next-generation sequencing (NGS) library prep using Illumina® NGS instruments. This RNA library kit features cDNA barcoding and several different workflows, which enable either complete transcription of RNA molecules or 3' RNA-seq, simply by varying the primer in the reverse transcription reaction. We have successfully automated the simple and fast QIAseq FastSelect RNA Library workflow on SPT Labtech's firefly® liquid handling platform to generate Illumina®-compatible sequencing libraries. firefly has been designed specifically to streamline NGS library preparation by bringing together multiple liquid handling capabilities on a compact footprint.

## Workflow overview



\*firefly Run Time | \*\*Thermocycler Run Time (min)

Figure 1. Overview of the steps performed by firefly to automate QIAseq® FastSelect™ RNA Library Kit including HMR RNA removal with run times for firefly and the thermocycler. RNA input: 100 ng.

## Protocol performance

### QC Data QIAseq® FastSelect™ RNA Library Kit

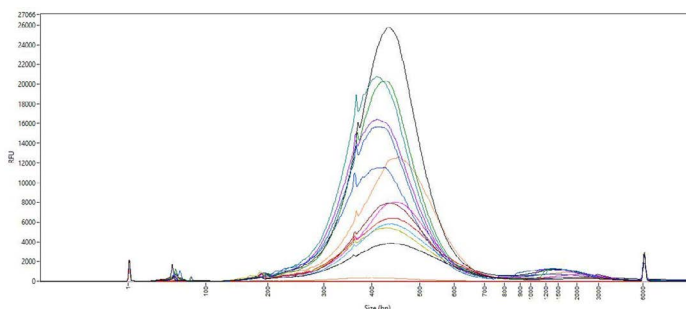


Figure 2. Fragment size distribution of the QIAseq® FastSelect™ RNA libraries analysed using the Fragment Analyzer. RNA input concentration 100 ng.

	ng/μL	nmole/L	Avg. Size (bp)
Average all samples	13.06	51.52	401
All samples %CV	70.82	71.64	12.90

Table 1. Average concentration (ng/μL and nmol/L) and size (bp) of the final libraries shown in Figure 2.

## Conclusion

The automated workflow of the QIAseq FastSelect RNA Library Kit combined with firefly enable reproducible RNA library preparation, with performance metrics demonstrating robust library yields, reduced hands-on time and less user interventions.



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