

## Overview

One-step  
protocol

Fast, 14-min  
protocol

Robust  
performance  
with FFPE  
samples

Reproducibility

Works with  
any RNA-seq  
protocol

Species  
compatibility

Ordering  
Information

# QIAseq FastSelect –rRNA and Globin HMR Kits

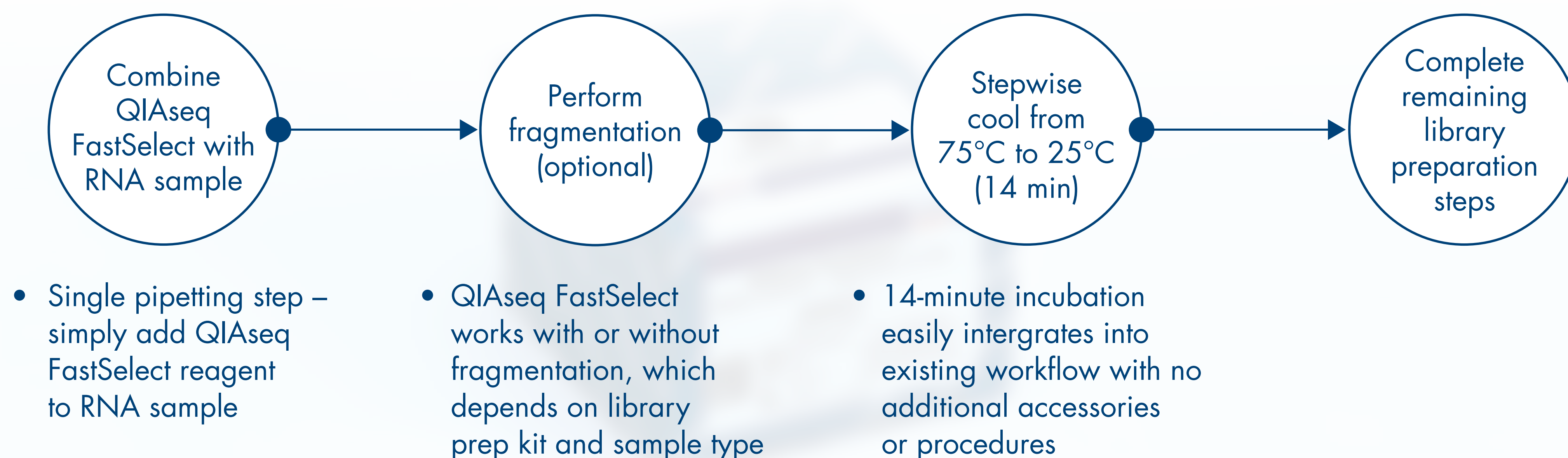
Single-kit solution for efficient removal of rRNA and/or globin mRNA with just one pipetting step



- Streamline RNA removal using 1 pipetting step instead of >30
- Fastest kit on the market: 14-minute procedure instead of >2 hours
- No limits on RNA quantity or quality – compatible with intact and degraded RNA, with input from 1 ng – 1 µg
- Works with any RNA library prep kit and can be used together with QIAseq FastSelect –5S/16S/23S Kits for mixed samples
- Nearly complete removal of rRNA and/globin mRNA



# One-step protocol is complete in just 14 minutes

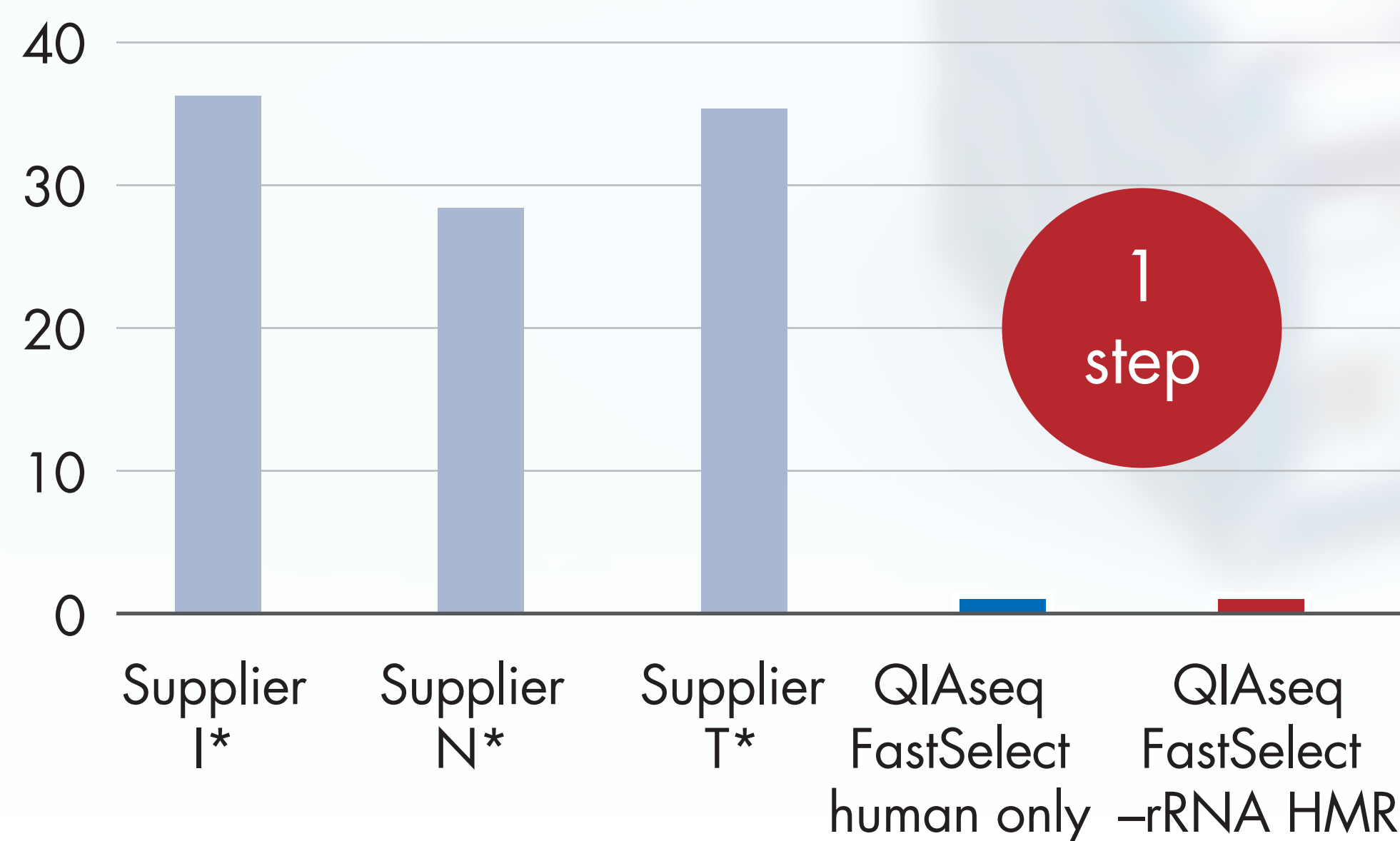


Single reagent for one-step rRNA and/or globin mRNA from human, mouse, rat and other mammalian species

# A 14-min, one-step protocol means greater efficiency and speed

## Ⓐ QIAseq FastSelect: one inline reaction step

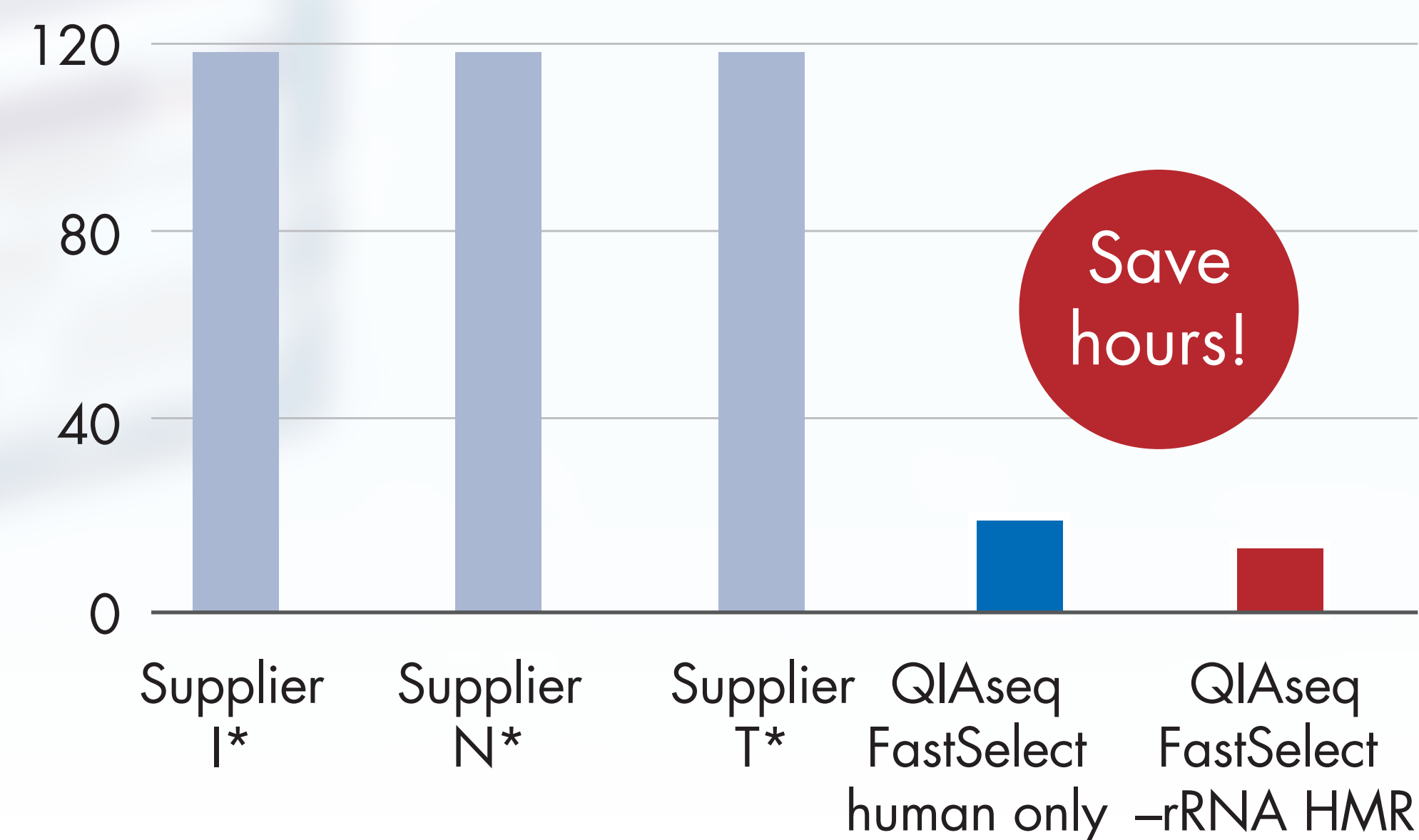
# of workflow steps



\* Supplier I = Illumina; Supplier N = New England Biolabs; Supplier T = ThermoFisher.

## Ⓑ QIAseq FastSelect: 90% less time

Time (min)



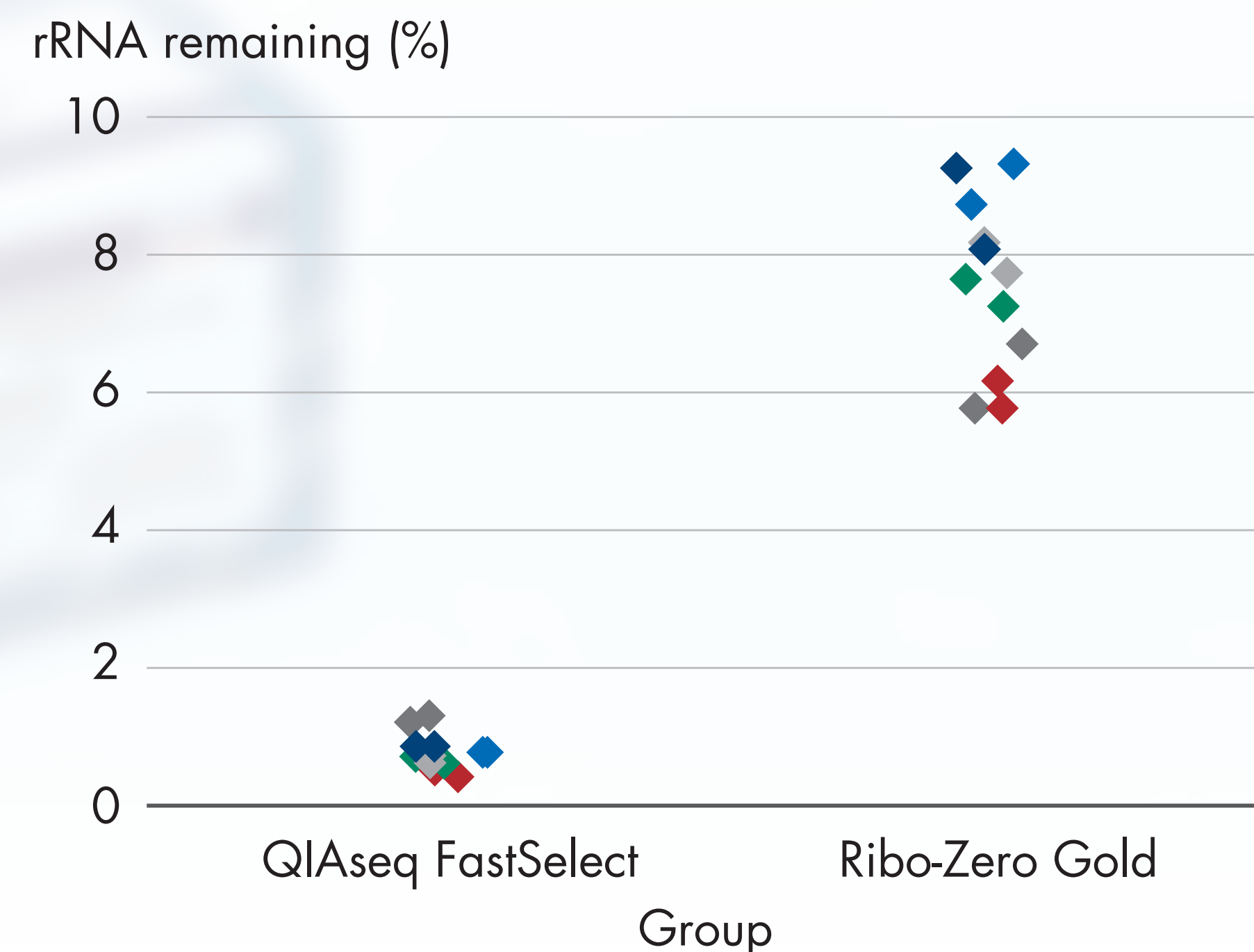
Save even more time and effort with a 30% faster protocol compared to previous kit version

# Reduce the number of wasted reads from FFPE samples

## Superior rRNA removal compared to other suppliers

**A**

Sample	QIAseq FastSelect % rRNA remaining	Ribo-Zero Gold % rRNA remaining
S34022 N	0.69	7.46
S34022 C	0.72	7.94
S34019 N	0.89	8.65
S34019 C	0.84	9.05
S33119 N	1.30	6.23
S33119 C	0.50	5.97

**B**


**QIAseq FastSelect results in highly efficient removal of rRNA from fragmented samples.** Total RNA was isolated from 5 µm normal and cancer lung FFPE sections using the miRNeasy FFPE Kit. The QIAseq Stranded Total RNA Lib Kit was used for RNA-seq library prep. Average % rRNA remaining is provided in **A** and plotted in **B**. Ribo-Zero Gold required substantially more amplification cycles than the QIAseq FastSelect libraries, suggesting some sample may be lost with Ribo-Zero Gold.

## Sequence what matters – efficient use of sequencing resources and capacity



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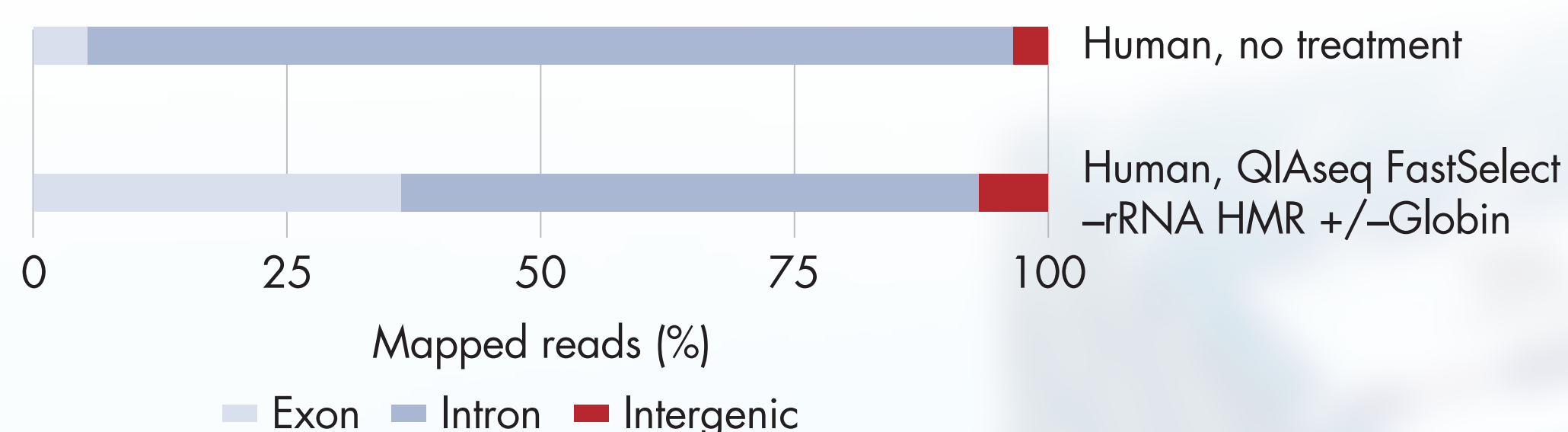
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# Robust removal of rRNA and globin mRNA

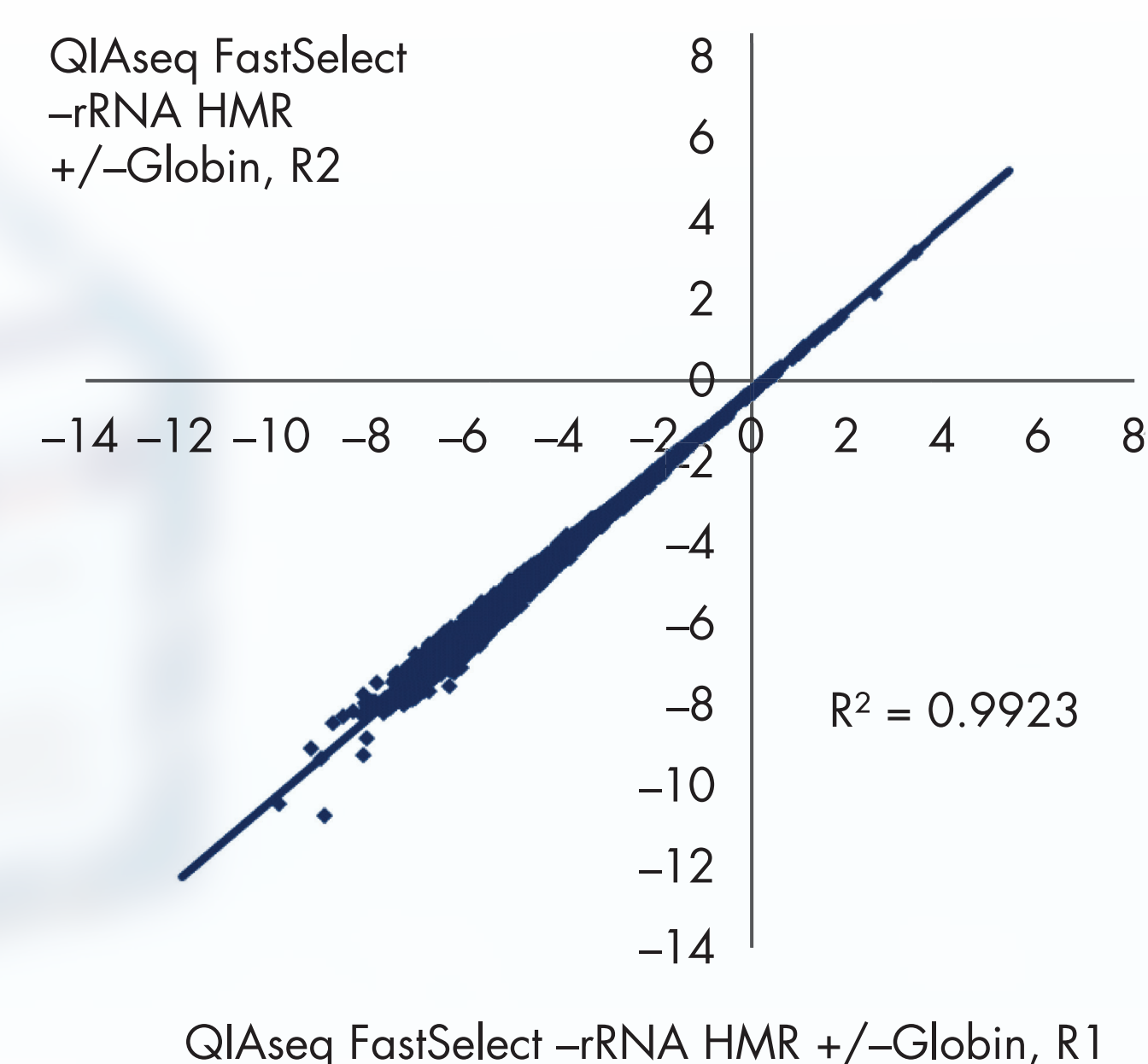
## Increased exon mapping

Exon/intron/intergenic reads



## Strong correlation: Replicates

Gene expression analysis



## Substantial removal of rRNA and globin

Mapping metrics

Percentage of reads mapped to rRNA		Percentage of TPM mapped to Globin	
No treatment	QIAseq FastSelect -rRNA HMR +/-Globin	No treatment	QIAseq FastSelect -rRNA HMR +/-Globin
88.50	1.16	82.46	0.16

**Experimental overview.** As starting sample, 100 ng human whole blood total RNA was used. The QIAseq FastSelect -rRNA/Globin Kit was used for RNA removal. RNA-seq library prep was performed using the QIAseq Stranded Total RNA Lib Kit, with sequencing on the NextSeq® 550 read mapping using QIAGEN CLC Genomics Workbench.

Efficient rRNA and globin removal resulting in an increased percentage of reads mapped to exons, with gene expression values from FastSelect-treated samples highly correlative ( $\text{Log}_2 \text{ RPKM} > 0.3$ )

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# Compatible with QIAGEN, Illumina<sup>®</sup>, KAPA<sup>®</sup> and NEB<sup>®</sup> RNA-seq library prep workflows

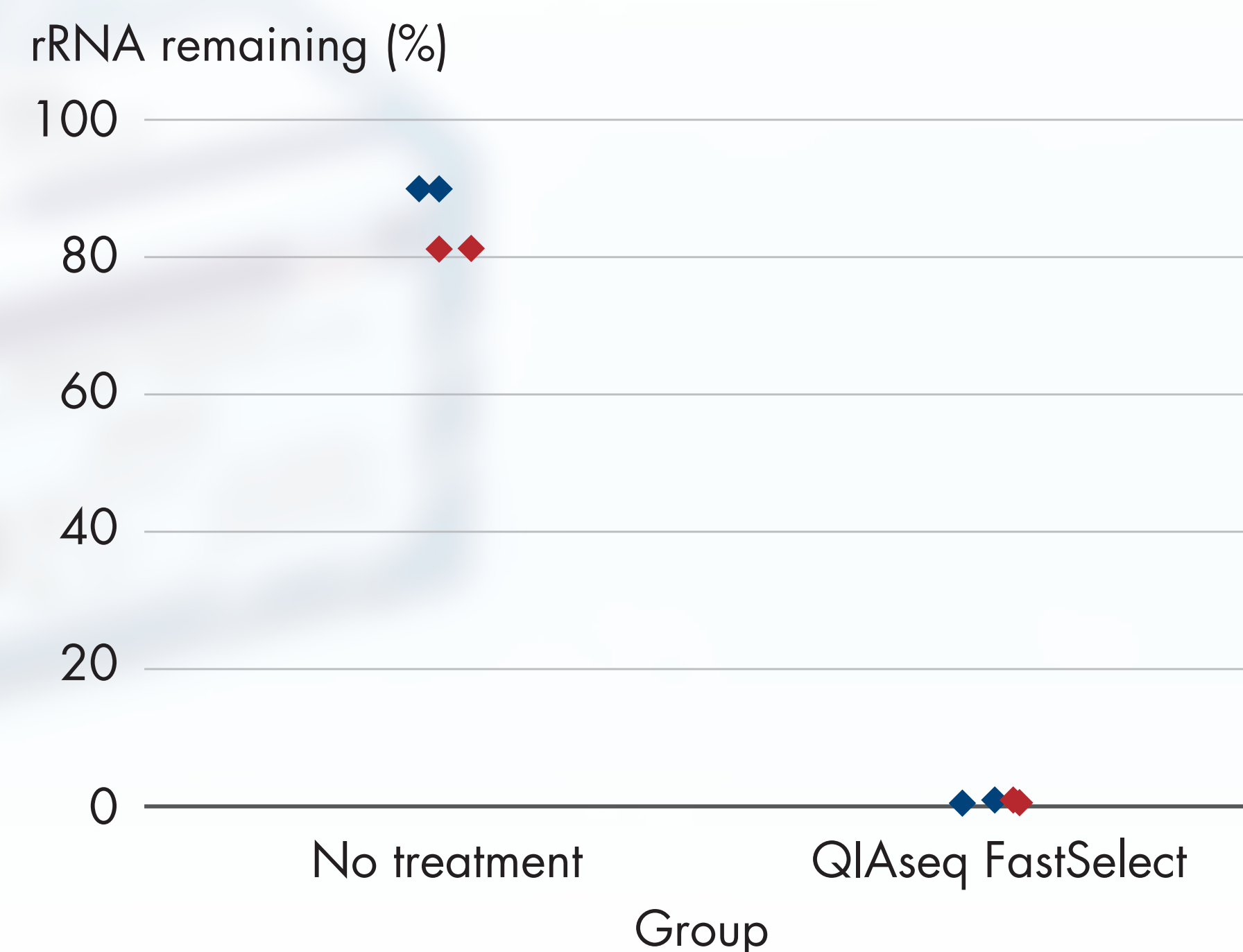
**A**

Sample	rRNA remaining (%)	Protein coding (%)
100 ng UHRR	1.01	89.4
1 µg UHRR	1.09	89.7



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**B**



**QIAseq FastSelect integrated into Illumina TruSeq<sup>®</sup> workflow (performance).** **A** Average % rRNA remaining and % protein-coding reads shown. **B** rRNA remaining is shown when no rRNA removal is performed (no treatment) and when rRNA removal is performed using QIAseq FastSelect technology (blue = 100 ng and red = 1 µg). QIAseq FastSelect results in highly efficient removal of rRNA. Average % rRNA remaining is provided in **A** and plotted in **B**.

## Consistent performance and high downstream reproducibility

# A single-kit solution for various mammalian samples

**QIAseq FastSelect –rRNA HMR Kit is a single solution that removes mitochondrial and cytoplasmic rRNA from human, mouse, rat and other mammalian samples**

Species	Reads mapped to rRNA (%)		rRNA removed (%)
	No treatment	After QIAseq FastSelect –rRNA HMR	
Human	91.8	1.6	98.3
Mouse	92.9	2.2	97.6
Rat	93.0	2.6	97.2
Cow	70.0	1.2	98.3
Horse	74.1	1.8	97.6
Hamster	77.5	3.5	95.5
Sheep	87.3	4.0	95.4
Dog	87.8	9.1	89.6
Monkey	90.4	10.6	88.3
Chicken	88.3	16.3	81.5
Rabbit	88.8	16.5	81.4
Pig	87.6	17.3	80.3



## Ordering Information

Product	Species available	Targets	Cat. no.
<a href="#">QIAseq FastSelect –rRNA HMR Kit (96)*</a>	Human, mouse, rat and other mammalian species	rRNA	334387
<a href="#">QIAseq FastSelect –rRNA/Globin Kit (96)*</a>	Human, mouse, rat and other mammalian species	rRNA and globin mRNA	335377
<a href="#">QIAseq FastSelect –Globin Kit (96)*</a>	Human, mouse, rat and other mammalian species	Globin mRNA	334377
<a href="#">QIAseq FastSelect –5S/16S/23S Kit (96)*</a>	Bacteria	5S, 16S and 23S rRNA	335927
<a href="#">QIAseq Stranded Total RNA Lib Kits (96)*</a>	Any	Transcriptome	180745
<a href="#">QIAseq Stranded mRNA Select Kit (96)*</a>	Any	Poly(A) transcripts	180775

\* Other kit sizes and/or formats available; see [www.qiagen.com](http://www.qiagen.com) for details.

Learn more at [www.qiagen.com/QIAseqFastSelect/HMR](http://www.qiagen.com/QIAseqFastSelect/HMR)

For up-to-date licensing information and product-specific disclaimers, see the respective QIAGEN kit handbook or user manual. QIAGEN kit handbooks and user manuals are available at [www.qiagen.com](http://www.qiagen.com) or can be requested from QIAGEN Technical Services or your local distributor.

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