

sample prep

thermo
scientific

applied
biosystems

invitrogen



RNA isolation and purification

For every application, sample, and RNA type

ThermoFisher
SCIENTIFIC



Isolate and purify RNA with confidence

Go ahead and push the limits of your research. We'll be there to support you with robust RNA kits, trusted RNA tools, and experienced technical support, all backed by nearly 30 years of leadership and innovation in RNA technologies.

RNA isolation is a crucial step in your journey. Be confident that you're getting started on the right foot.

- Isolate from any sample type, for any application
- Obtain high-purity, intact RNA
- Achieve high yields, even from small sample quantities

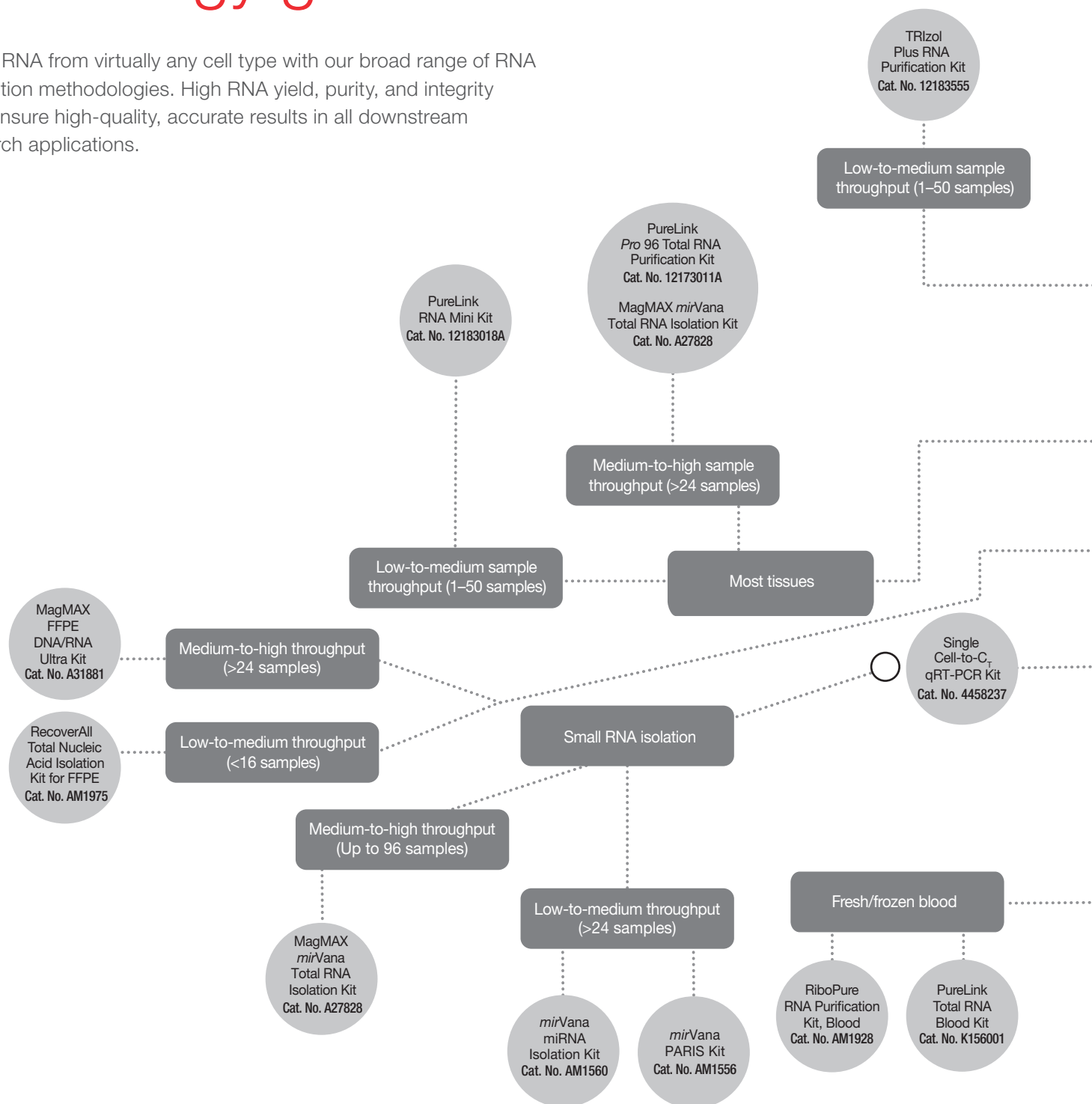


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RNA isolation technology guide

Purify RNA from virtually any cell type with our broad range of RNA extraction methodologies. High RNA yield, purity, and integrity help ensure high-quality, accurate results in all downstream research applications.





Automated RNA purification

Highly versatile, adaptable, and flexible system

Optimize and automate your RNA purification workflow with Applied Biosystems™ MagMAX™ kits and Thermo Scientific™ KingFisher™ Flex and Duo Prime Purification Systems. A revolutionary particle separation technology—permanent magnetic rods and disposable tip combs with independent

movement control—forms the basis of both KingFisher Flex and KingFisher Duo Prime instruments. When used with compatible bead-based reagents, such as MagMAX kits, these processors enable versatile automation of DNA and RNA extraction, isolation, and purification procedures.

Learn more and request a demo at thermofisher.com/kingfisher

High-throughput automated purification with the KingFisher Flex Purification System

Using a carousel of 8 plate positions, the KingFisher Flex instrument is designed to process washing, incubation, and bead transfer steps with entire plates of samples from a variety of sources.

- High-throughput sample processing
- Volume ranges from 50 to 5,000 µL
- 24-tip and 96-tip manifold (for 24-well and 96-well plates)
- Accommodates up to 8 plates



In addition to total RNA purification, KingFisher processors can accommodate DNA, protein, and cell separation.

Compact automated purification with the KingFisher Duo Prime Purification System

This small-footprint system is ideal for space-restricted laboratories. Using a carousel of 2 plate positions, the KingFisher Duo Prime is designed to process washing, incubation, and bead transfer steps across partial plates of samples from a variety of sources.

- Compact mid-throughput sample processing
- Volume ranges from 30 to 5,000 μL
- 6-tip or 12-tip manifold
(for 24-well and 96-well plates)
- Accommodates up to 2 plates



Simple, fast isolations with MagMAX kits

When Applied Biosystems™ MagMAX™ kits are used on the KingFisher Flex processor, labs will have a simple, fast system that is designed to provide pure RNA ready for downstream applications such as real-time PCR and next-generation sequencing. Benefits include:

- Nucleic acid extraction from larger sample input volumes
- Consistent, high-quality nucleic acid recovery from a wide variety of sample types
- Cross-contamination control due to bead transfer technology

Isolate total RNA, mRNA, small RNA, and viral RNA with MagMAX kits and KingFisher processors.

Select the right MagMAX kit for your needs at thermofisher.com/magmax

Total RNA purification

Quality, intact RNA—simple, high-yield workflows

Starting with high-quality, pure, and intact total RNA is critical to many experiments, including RT-PCR, qRT-PCR, array analysis, northern blots, nuclease protection assays, and RNA sequencing. The table to the right will help you choose the right product to purify total RNA from your specific sample type and sample size.

Invitrogen™ TRIzol™ reagents are the most cited nucleic acid purification reagents, with over 70,000 citations.

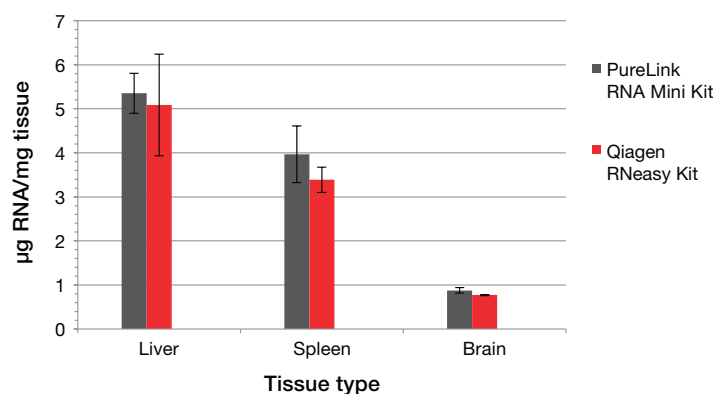
View the complete portfolio at thermofisher.com/totalrna

“... we optimized a co-extraction method using TRIzol reagent, which is the most trusted reagent for total RNA extraction from fresh tissues, because it allows DNA/RNA phase separation and recovery from fresh tissues.”

Kotorashvili A et al. (2012) Effective DNA/RNA co-extraction for analysis of microRNAs, mRNAs, and genomic DNA from formalin-fixed paraffin-embedded specimens. *PLoS One* 7:e34683.

PureLink kits perform over a wide range of starting material

Total RNA from rat liver, spleen, and brain was purified using the PureLink RNA Mini Kit and Qiagen™ RNeasy™ Kit according to manufacturer's instructions. In each case, the PureLink RNA Mini Kit provided equal or greater yields than the Qiagen kit.



Which product is right for your research?

	TRIzol reagents	PureLink kits	MagMAX kits	Cells-to-C _T kits
	Process a large amount of tissue	Fast isolation of RNA from a variety of samples	High-throughput purification of RNA and DNA	Process cells for gene expression
Prep time	60 min	<20 min	45 min	10 min
Sample types	Most samples, particularly those more difficult to lyse	Bacteria, liquid, blood, cells, yeast, plants, tissue	Cells, blood, plants	Cultured cells
Starting material	100 mg of tissue or 10 ⁷ cells	10 ⁸ cells, 200 mg of tissue, 250 mg of plant tissue, 0.2 mL of blood, 5 x 10 ⁶ yeast, 10 ⁹ bacteria	100 mg of tissue or 5 x 10 ⁶ cells	1–100,000 cells
Yield	1 x 10 ⁶ epithelial cells: 8–15 µg, tobacco leaf: 73 µg	Up to 350 µg	Variable depending on sample	NA
High-throughput compatible	—	✓	✓	✓
Technology	Organic extraction	Silica membrane spin column/filter plate	Magnetic beads	Crude lysate

View thermofisher.com/rnaselection to use our online kit selection guide.

Working with cultured cells?

Did you know you can go straight to qRT-PCR without RNA purification?

Visit thermofisher.com/cellstoc to learn more.

Transcriptome purification

Comprehensive, truly representative spectrum of RNA transcripts

Isolating high-quality RNA is a crucial first step in successful whole transcriptome analysis. Transcriptome enrichment and concentration prepare the sample for numerous downstream applications, including RNA-Seq, microarray analysis, library construction, and qRT-PCR.

Invitrogen™ RiboMinus™ Transcriptome Isolation Kits enrich RNA transcripts by depleting large ribosomal RNA molecules from the total RNA sample. This unique technology offers:

- Ribosomal RNA-free, whole transcriptome samples
- Increased representation of RNA transcript species
- Variety of sample formats (human/mouse, yeast, and bacterial)

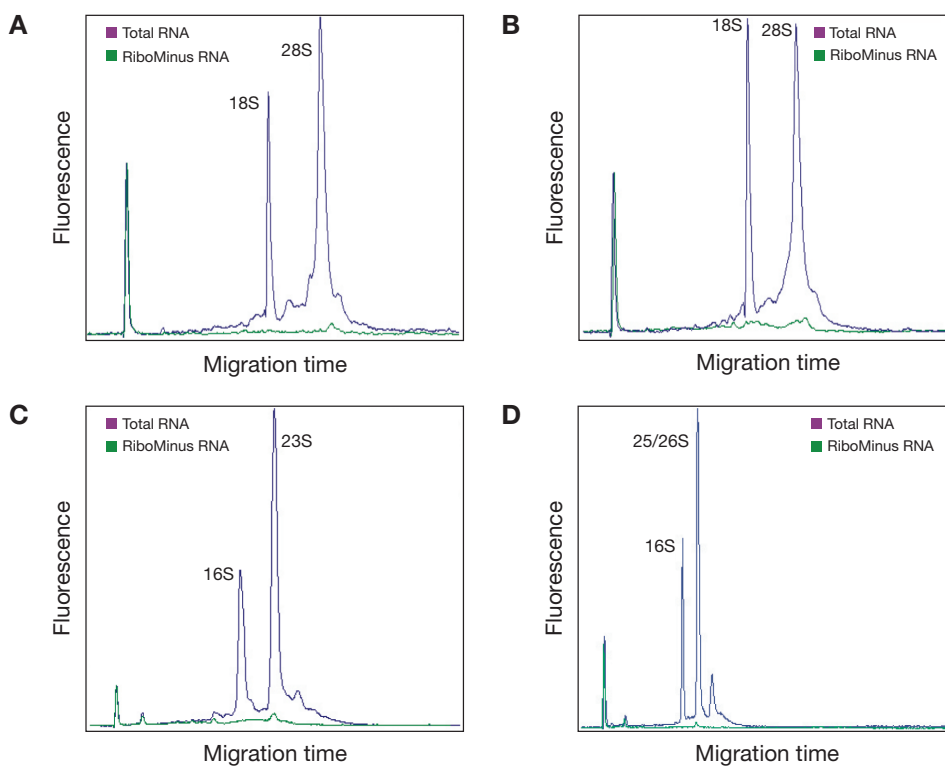


Figure 1. Invitrogen™ RiboMinus™ technology demonstrating greater than 95% rRNA depletion. (A) Human total RNA isolated from HeLa cells. (B) Mouse total RNA isolated from mouse liver. (C) Bacterial total RNA isolated from *E. coli*. (D) Yeast total RNA isolated from *S. cerevisiae*. Samples were analyzed using the Agilent™ 2100 Bioanalyzer™ instrument.

mRNA purification

Rapid, high-yield isolation of pure mRNA

Only 1–5% of the total RNA in a typical mammalian cell is poly(A) RNA or mRNA.

We offer highly efficient technologies to purify mRNA directly from your starting sample or from isolated total RNA. The table below will help you choose the technology that is right for you.

Which mRNA purification product is right for your research?

	Dynabeads mRNA Purification Kit	Dynabeads mRNA DIRECT Purification Kit	Dynabeads mRNA DIRECT Micro Kit	mRNA Catcher PLUS Purification Kit
	Rapid mRNA purification from total RNA	No purification, mRNA direct from crude samples	mRNA from micro-sized samples	High-throughput mRNA directly or enriched from total RNA
Prep time	15 min	15 min	15 min	90 min
Isolation from crude samples	—	✓	✓	✓
Enrichment from total RNA	✓	—	—	—
Sample type	Total RNA	Liquid, RNA, FFPE and fixed, yeast, blood, tissue, viral, plant, cells	Liquid, RNA, FFPE and fixed, yeast, blood, tissue, viral, plant, cells	Total RNA, blood, mammalian tissue, and cells
Starting material	75 µg of total RNA	2 x 10 ⁷ cells, 2–200 mg of tissue, 4–400 mg of plant	1 x 10 ⁴ cells, 5 mg of tissue or plant	100 to 1 x 10 ⁸ cells, 4 mg of tissue, 40 µL of whole blood, 100 ng–100 µg of total RNA
High-throughput compatible	✓	✓	✓	✓
Technology	Magnetic beads	Magnetic beads	Magnetic beads	Oligo dT affinity

Two distinct approaches to purifying mRNA

- Extract total RNA, then enrich for mRNA. This allows for archival of total RNA samples and is the method used with the mRNA Catcher PLUS kit.
- Lyse the cells, then purify mRNA directly. This is typically faster than the first approach and is the method used with Dynabeads mRNA DIRECT kits.

Did you know?

Your mRNA purification workflow can be automated on a KingFisher magnetic particle processor.

Dynabeads mRNA purification has been cited in over 5,000 publications.

MicroRNA and small RNA purification

Rapid, quantitative recovery of small RNA

MicroRNA and other small RNAs have a substantial impact on biological processes, including gene expression. However, traditional RNA isolation methods do not sufficiently recover these smaller RNAs. Our RNA experts have developed RNA isolation kits that provide rapid,

quantitative recovery of small RNAs from a variety of sample types in as little as 10 minutes. The table below will help you choose the right product to purify small RNAs for your specific application.

The high-throughput-capable Applied Biosystems™ MagMAX™ *mirVana*™ Total RNA Isolation Kit enables superior performance

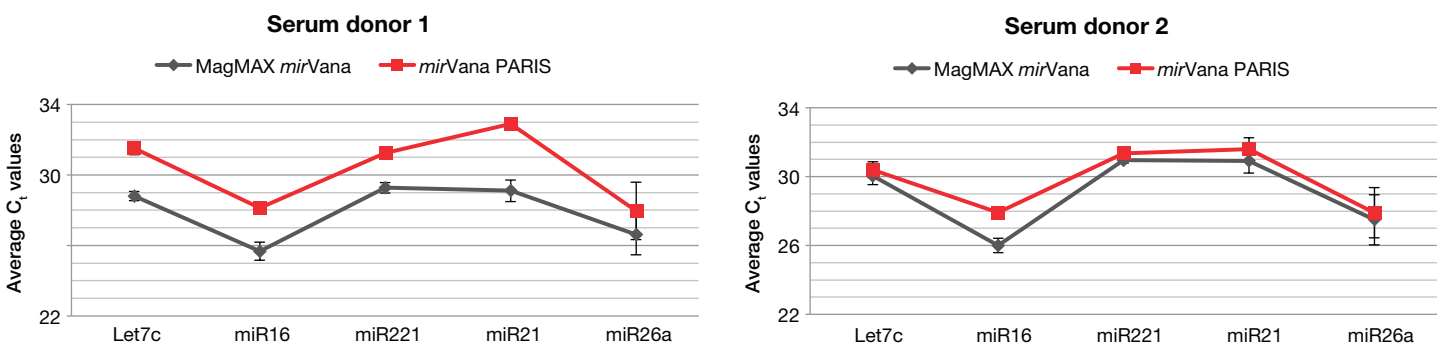
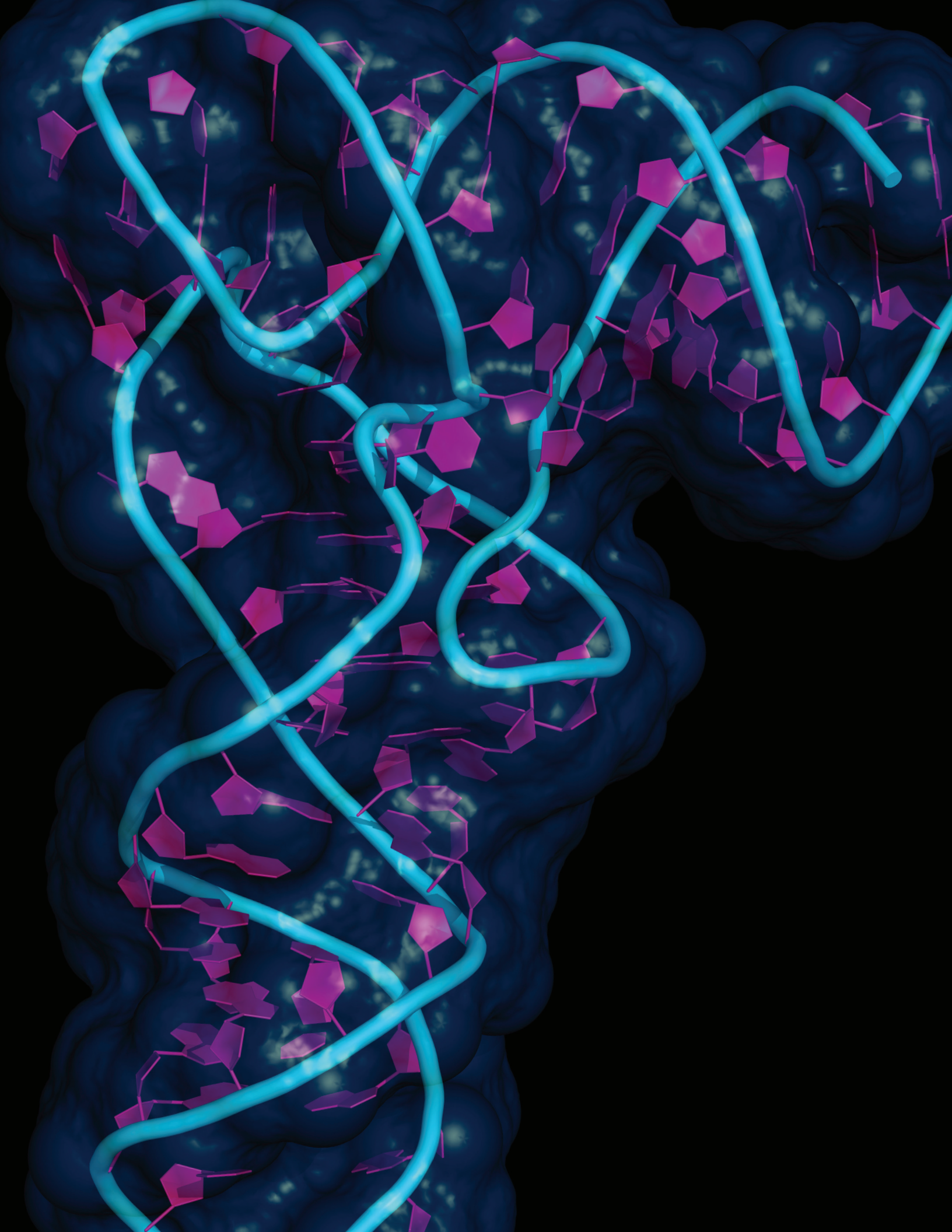


Figure 2. RNA was isolated from the serum of two donors and the levels of five microRNAs were measured by qRT-PCR. The MagMAX *mirVana* Total RNA Isolation Kit, a new magnetic bead-based technology, was benchmarked against the gold-standard Invitrogen™ *mirVana*™ PARIS™ RNA Kit.

Which product is right for your research?

	<i>mirVana</i> miRNA Isolation Kit	MagMAX <i>mirVana</i> Total RNA Isolation Kit	TaqMan microRNA Cells-to-C _t Kit
	30 min isolation from most samples	High-throughput, pure, concentrated microRNA	Complete kit, sample to qPCR from cells
Prep time	30 min	<60 min	10 min
Sample types	Bacteria, cells, yeast, plant, tissue, viral	Plasma/serum, whole blood, tissue, cells, urine	Cells
Starting material	250 mg of tissue or 10 ⁷ cells	100 mg of tissue or 5 x10 ⁶ cells	10–100,000 cells
High-throughput compatible	—	✓	✓
Technology	Organic extraction and silica membrane spin column	Magnetic beads (phenol-free)	Crude lysate



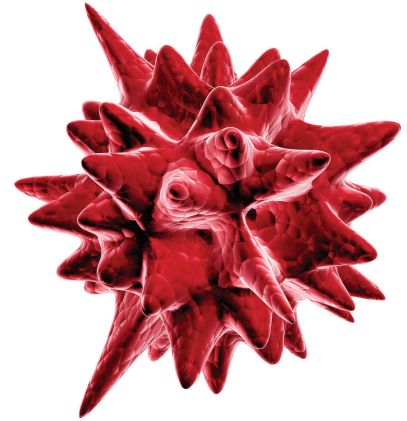
Viral RNA purification

Rapid, efficient purification from cell-free biological fluids

Successful viral analysis starts with the isolation of highly pure, concentrated viral RNA and DNA. Our advanced nucleic acid purification technologies for biological (animal, insect, plant, fungal, and bacterial) and environmental (water, air, and food) samples give you confidence in your sensitive downstream real-time PCR and northern blot assays.

Our viral nucleic acid isolation technologies offer superior:

- Recovery—typically >50% even at low concentrations
- Sensitivity and reproducibility
- High-throughput compatibility and integration into robotic platforms



Purification of adenovirus DNA with Invitrogen™ PureLink™ Viral RNA/DNA Mini Kit provides superior recovery and sensitivity

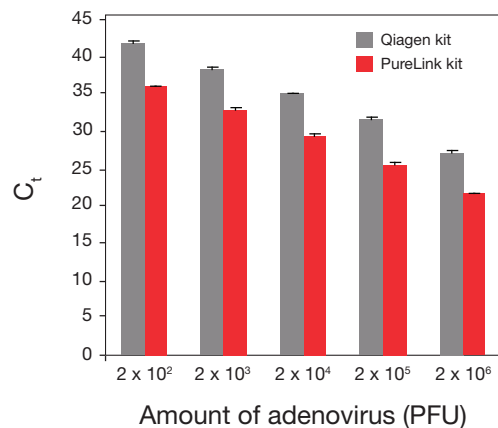
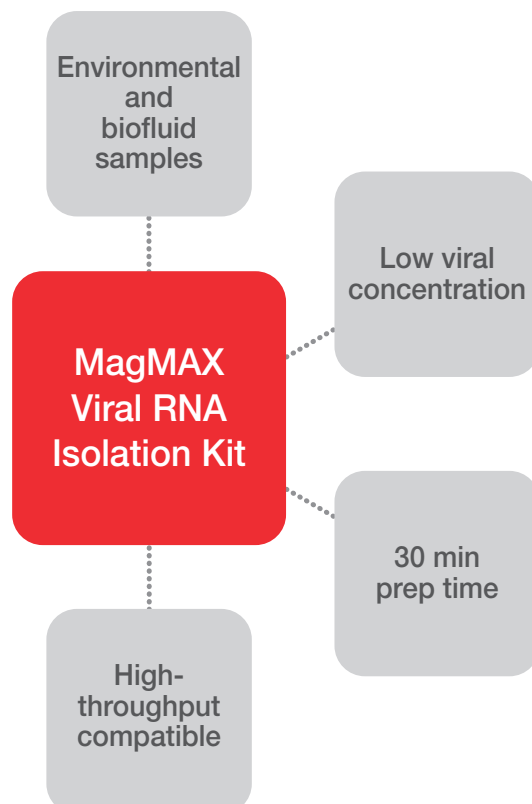
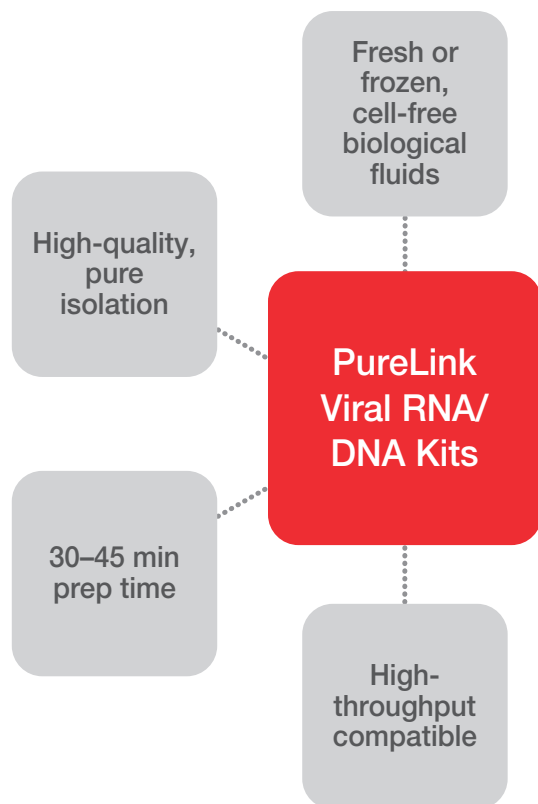


Figure 3. Serum samples (200 μ L) were spiked with adenovirus DNA at the indicated PFU and then DNA extraction was performed following the manufacturer's recommended procedure for the PureLink Viral DNA/RNA Mini Kit or Qiagen kit.



View all our tools for viral RNA and DNA capture and purification, as well as qRT-PCR and qPCR analysis at thermofisher.com/viral

Select the right viral RNA isolation kit for your research at thermofisher.com/viralrna

Real-time RT-PCR without RNA purification

Exceptional speed and accuracy in measuring gene expression

Invitrogen™ Cells-to-C_T™ kits allow you to skip RNA purification by going straight from cultured cells, blood, or single-cell samples to measuring relative gene expression by real-time RT-PCR (qRT-PCR). Cells-to-C_T kits are available in both TaqMan® and SYBR™ Green formats, and offer:

- **Extraordinary ease and speed**—96 samples can be processed for qRT-PCR in typically <10 min
- **No tedious RNA purification**—no columns, heating, or centrifugation
- **Superior performance**—designed for consistent accuracy, reproducibility, and sensitivity, with 10–100,000 cells
- **Validated kit workflows**—complete sets of reagents preoptimized to work efficiently right out of the box

Skip RNA purification without compromising performance

Performance of the Invitrogen™ Cells-to-C_T™ 1-Step TaqMan® Kit is tightly correlated with a traditional approach using purified RNA.

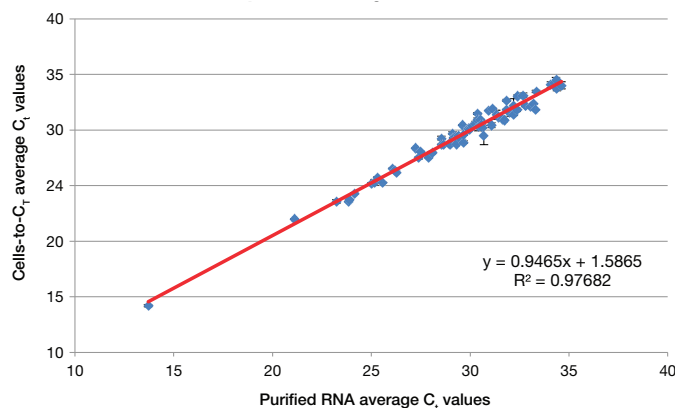


Figure 4. Data from 72 assays compares performance of the Cells-to-C_T 1-Step TaqMan Kit with a traditional approach using purified RNA. Lysate from 16,500 Jurkat cells was prepared for qRT-PCR on the Applied Biosystems™ 7900HT Fast Real-Time PCR System.

Sensitivity of the Cells-to-C_T 1-Step TaqMan Kit is better than a traditional approach using purified RNA.

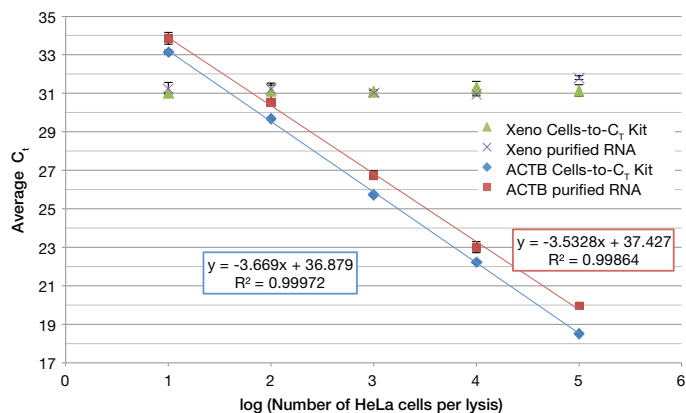
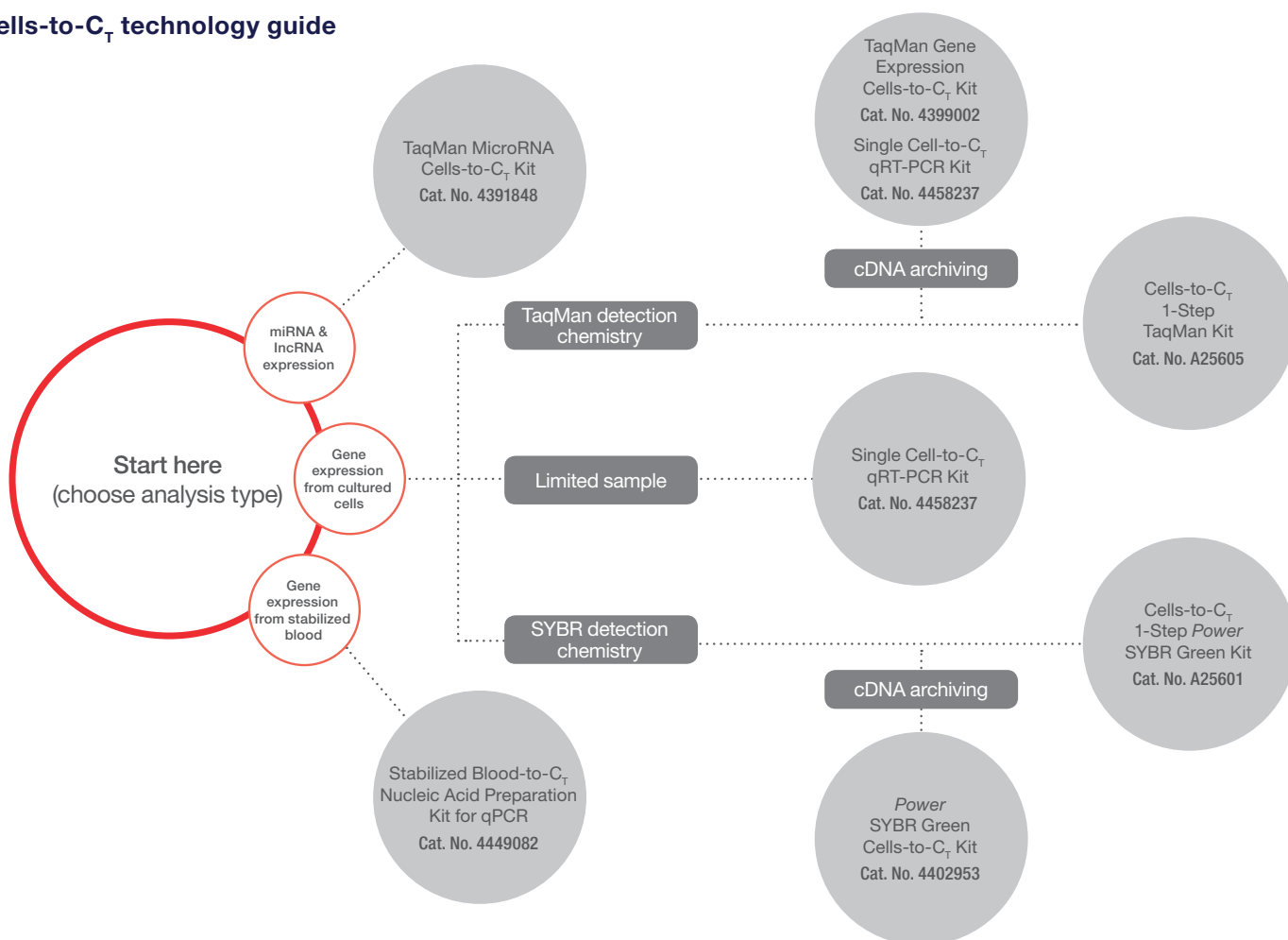


Figure 5. HeLa cells (10 to 100,000) were processed in triplicate using the Cells-to-C_T 1-Step TaqMan Kit or RNA purified with an RNA spin column method. Each set of samples was analyzed by qRT-PCR for beta-actin (ACTB) and Invitrogen™ XenoRNA™ targets using the Invitrogen™ Cells-to-C_T™ Control Kit on the 7900HT system.

Visit thermofisher.com/cellstoc to learn more and order.

Cells-to-C_T technology guide



Find out how your Cells-to-C_T workflow can be automated at

thermofisher.com/autocellstoct

Choose a 1-step kit, if you:

- Do not store cDNA
- Dispose of samples after one or a few uses
- Have many samples with one or a few targets
- Use liquid handling robotics
- Need to reduce the chance of cross contamination
- Need to reduce time to results

RNA lab essentials

For avoiding, detecting, and inhibiting RNases

RNA can be difficult to work with as it is readily degraded by RNases that are found in a variety of environmental sources, such as bacteria and fungi, as well as flaked skin and hair. RNases are extremely robust enzymes that can retain functionality at room temperature, and even after freeze/thaw cycles and autoclaving. Consequently, RNases are unaffected by many methods of decontamination, and strong chemical methods are often required to eliminate them from surfaces and solutions.

However, some basic precautions, including the use of RNase-free plastics and reagents, maintaining a clean work surface, and properly stabilizing tissue samples prior to storage will go a long way toward minimizing experimental inconsistencies and failures. Invitrogen™ RNA essentials are a staple in labs that handle RNA, giving researchers worldwide confidence in their results.

Even spleen tissue, an organ known for its high endogenous RNase content, can be stored without jeopardizing the quality or quantity of RNA subsequently isolated when the sample is stabilized with RNA/*later*.

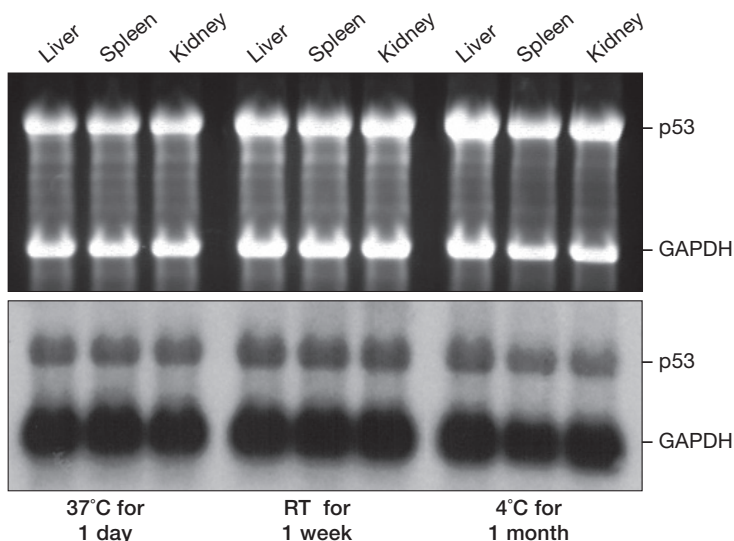


Figure 6. Northern blot of RNA from tissue treated with Invitrogen™ RNA/*later*™ Stabilization Solution. The dissected tissue was submerged in approximately 5 volumes of RNA/*later* solution at room temperature. Samples were stored at 37°C for one day, room temperature (25°C) for one week, or 4°C for one month. A northern blot (of gel in the top panel) that was hybridized with probes to p53 and GAPDH, demonstrates the integrity of RNA isolated from tissues treated with RNA/*later* solution and stored at different temperatures (bottom panel).



Nuclease-free tips and tubes

Pipette tips and tubes are an easily overlooked source of RNase contamination.

We offer a range of RNase-free plastic pipette tips, PCR tubes, microcentrifuge tubes, and conical tubes. Each lot of Invitrogen™ Ambion™ tips and tubes undergoes rigorous testing and is certified to be nuclease-free. View products at thermofisher.com/nucleasefreeplastics



Nuclease-free water

Preparing reagents and resuspending precipitated RNA with the appropriate grade water is a crucial and often ignored first step for consistent experimental results. Even purified water can have a high pH and minerals that can interfere with certain types of reactions.

We offer several grades of nuclease-free water—diethylpyrocarbonate (DEPC)-treated water, nuclease-free water (not DEPC-treated), and RT-PCR-grade water—all rigorously tested for contaminating nonspecific endonuclease, exonuclease, and RNase activity. Learn more at thermofisher.com/nucleasefreewater



Surface decontamination

It's safe to assume that most laboratory surfaces are contaminated with RNases, since they're exposed to the bacteria, fungi, flaked skin, and hair present in the environment. Unfortunately, even trace quantities of RNases can lead to lower yields from *in vitro* transcription reactions, degradation during RNA purification protocols, and variable results with qRT-PCR.

Fortunately, a suite of trusted products proven effective at eliminating RNase contamination from lab surfaces is available, including Invitrogen™ Ambion™ RNaseZap™ Decontamination Solution and Invitrogen™ Ambion™ RNase AWAY™ Decontamination Reagent. View and order all solutions at thermofisher.com/surfacedecontamination



Sample stabilization

In order to isolate high-quality RNA, the tissue has to be either processed immediately after harvest, snap-frozen, or stabilized in an intermediary solution to preserve RNA integrity and allow for storage.

We offer several Invitrogen™ Ambion™ RNA/ater™ products designed specifically to stabilize and preserve the quality of RNA either at the point of collection or even post-collection. Learn more at thermofisher.com/stabilizeRNA

RNA quantitation

Sensitive, accurate, affordable

Invitrogen™ Qubit™ fluorometric quantitation comprises the easy-to-use Invitrogen™ Qubit™ 3 Fluorometer and sensitive Invitrogen™ Qubit™ quantitation assays. The assays utilize fluorescent dyes that are selective to the target of interest. These fluorescent dyes emit only when bound to the target molecules even at low concentrations. Unlike UV absorbance, which measures anything absorbing at 260 nm, including DNA, RNA, protein, or free nucleotides, the Qubit assays avoid overestimation, making it ideal for precious samples and challenging applications.

Key features of the Qubit 3 Fluorometer include:

- Powerful, dual-core processor quickly and accurately quantifies DNA, RNA, or protein in <5 seconds per sample
- Uses as little as 1 µL of sample
- Stores up to 1,000 sample results
- Large 5.7-inch, state-of-the-art color touch screen for easy workflow navigation
- Ability to personalize your Qubit fluorometer with the assays you run most, add new assays, or even create your own with MyQubit assays
- Language of your choice, including English, French, Spanish, German, Italian, simplified Chinese, and Japanese

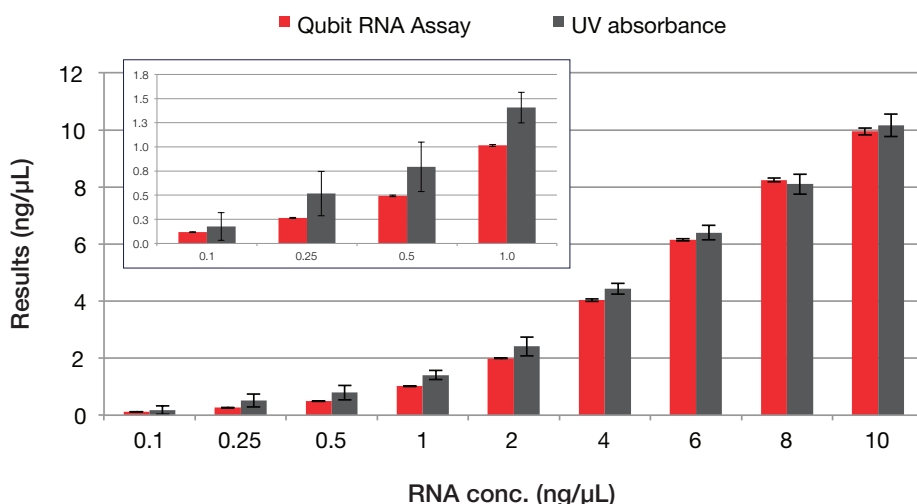
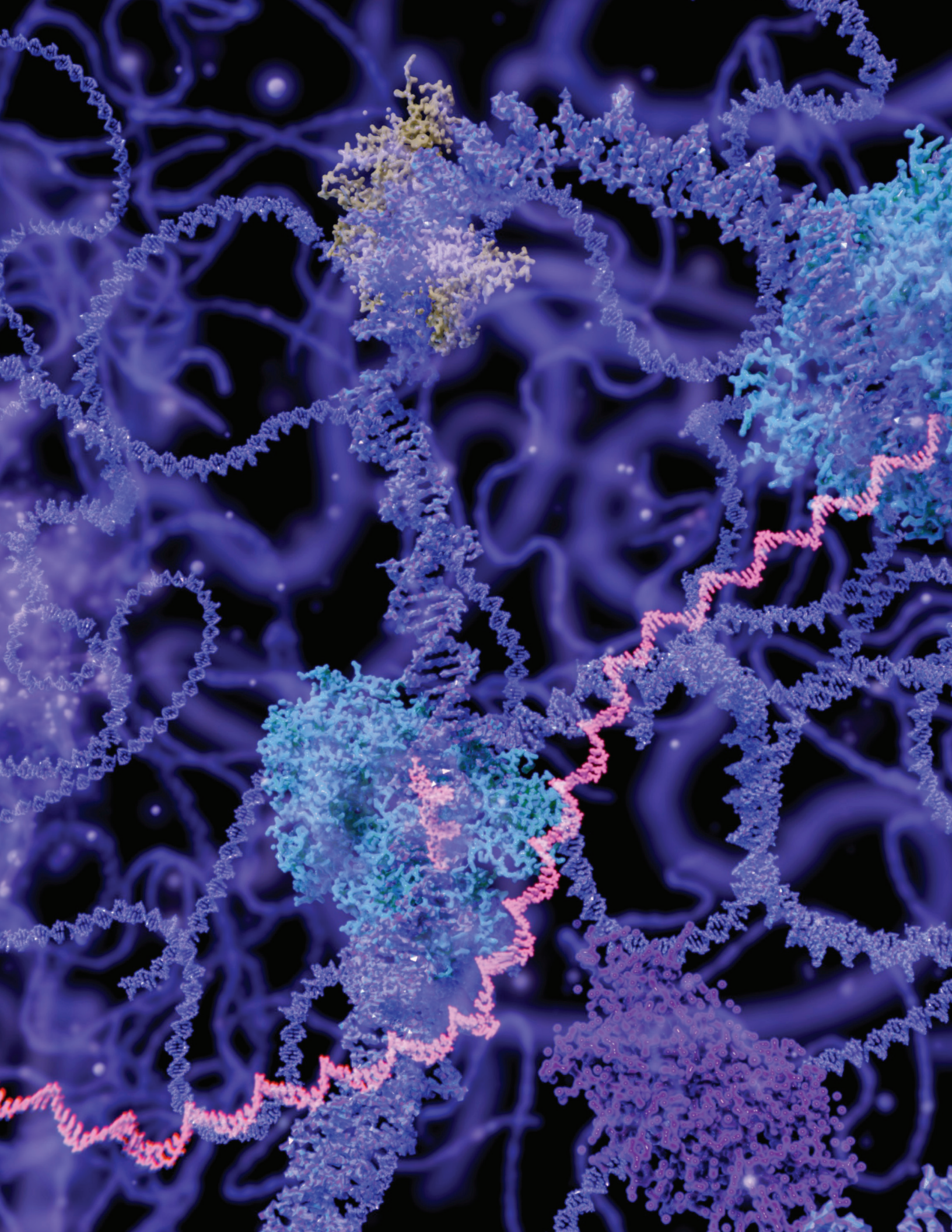


Figure 7. Accuracy and precision of the Qubit quantitation platform. Ten replicates of *E. coli* ribosomal RNA at concentrations ranging from 0.1 to 10 ng/µL were assayed using an Invitrogen™ Qubit™ RNA assay on the Qubit 3 Fluorometer. The same concentrations of RNA were measured in ten replicates using a micro-volume spectrophotometer. The concentrations indicated are the concentrations of RNA in the starting samples, before dilution in the Qubit assay tubes.

Visit thermofisher.com/qubit to learn more and to request a demo.



Ordering information

Product	Quantity	Cat. No.
Automated RNA purification		
KingFisher Flex Purification System with 24 Deep-Well Head	1 system	5400640
KingFisher Flex Purification System with 96 Deep-Well Head	1 system	5400630
KingFisher Duo Prime Purification System	1 system	5400110
Total RNA purification kits		
TRIzol LS Reagent	100 mL	10296010
	200 mL	10296028
TRIzol Plus RNA Purification Kit	50 preps	12183555
TRIzol Reagent	100 mL	15596026
	200 mL	15596018
TRIzol Max Bacterial RNA Isolation Kit	100 preps	16096020
	200 preps	16096040
PureLink RNA Mini Kit	10 preps	12183020
	50 preps	12183018A
	250 preps	12183025
MagMAX-96 Total RNA Isolation Kit	96 preps	AM1830
MagMAX <i>mir</i> Vana Total RNA Isolation Kit	96 preps	A27828
MagMAX FFPE DNA/RNA Ultra Kit	1 kit	A31881
MagMAX Plant RNA Isolation Kit	96 preps	A33784
Transcriptome purification kits		
RiboMinus Transcriptome Isolation Kit, yeast	6 preps	K155003
RiboMinus Transcriptome Isolation Kit, bacteria	12 preps	K155004
RiboMinus Eukaryote System v2	12 preps	A15026
RiboMinus Plant Kit for RNA-Seq	8 preps	A1083808
mRNA purification kits		
Dynabeads mRNA Purification Kit	2 mL	61006
Dynabeads mRNA DIRECT Purification Kit	5 mL	61011
	10 mL	61012
Dynabeads mRNA DIRECT Micro Purification Kit	2 mL	61021
mRNA Catcher PLUS Purification Kit	96 preps	K1570-02
	960 preps	K1570-03
microRNA and small RNA purification kits		
<i>mir</i> Vana miRNA Isolation Kit, with phenol	40 preps	AM1560
MagMAX <i>mir</i> Vana Total RNA Isolation Kit	96 preps	A27828
TaqMan MicroRNA Cells-to-C _T Kit	100 preps	4391848
Viral RNA purification kits		
PureLink Viral RNA/DNA Mini Kit	50 preps	12280050
PureLink <i>Pro</i> 96 Viral RNA/DNA Purification Kit	4 plates	12280096A
MagMAX-96 AI/ND Viral RNA Isolation Kit	384 preps	AM1835
MagMAX-96 Viral RNA Isolation Kit	96 preps	AM1836
	5 x 96 preps	AM1836-5
MagMAX Viral RNA Isolation Kit	50 preps	AM1939

Product	Quantity	Cat. No.
Cells-to-C_T kits		
Cells-to-C _T 1-Step TaqMan Kit	20 preps	A25605
	100 preps	A25603
	400 preps	A25602
TaqMan Gene Expression Cells-to-C _T Kit	40 preps	4399002
	100 preps	AM1728
	400 preps	AM1729
TaqMan MicroRNA Cells-to-C _T Kit	100 preps	4391848
TaqMan Fast Cells-to-C _T Kit	100 preps	4399003
Cells-to-C _T 1-Step <i>Power</i> SYBR Green Kit	20 preps	A25601
	100 preps	A25600
	400 preps	A25599
<i>Power</i> SYBR Green Cells-to-C _T Kit	40 preps	4402953
	100 preps	4402954
	400 preps	4402955
Fast SYBR Green Cells-to-C _T Kit	100 preps	4402956
	400 preps	4402957
Single Cell-to-C _T qRT-PCR Kit	50 preps	4458237
	400 preps	4458236
Cells-to-C _T Stop Solution	1 mL	4402960
Cells-to-C _T Bulk Lysis Reagents	2,500 preps	4391851C
Stabilized Blood-to-C _T Nucleic Acid Preparation Kit for qPCR, compatible with either PAXgene or Tempus Blood RNA Tubes	50 preps	4449079
Stabilized Blood-to-C _T Nucleic Acid Preparation Kit for qPCR, compatible with PAXgene Blood RNA Tubes	200 preps	4449082
Stabilized Blood-to-C _T Nucleic Acid Preparation Kit for qPCR, compatible with Tempus Blood RNA Tubes	200 preps	4449080
SYBR Green Cells-to-C _T Control Kit	100 preps	4402959
TaqMan Cells-to-C _T Control Kit	100 preps	4386995

Product	Quantity	Cat. No.
RNA lab essentials		
RNase-free Tips (200 µL)	10 racks	AM12650
RNase-free Tips (1,000 µL)	10 racks	AM12660
Barrier (Filter) Tips (10 µL) (compatible with Eppendorf pipettors)	10 racks	AM12635
Barrier (Filter) Tips (20 µL)	10 racks	AM12645
Barrier (Filter) Tips (100 µL)	10 racks	AM12648
Barrier (Filter) Tips (200 µL)	10 racks	AM12655
Barrier (Filter) Tips (1,000 µL)	10 racks	AM12665
Thin-walled, frosted lid, RNase-free PCR Tubes (0.2 mL)	1,000 tubes	AM12225
PCR Tubes and Caps, RNase-free (0.2 mL, 8-strip format)	125 strips	AM12230
Thin-walled, dome cap, RNase-free PCR Tubes (0.5 mL)	1,000 tubes	AM12250
Thin-walled, frosted lid, RNase-free PCR Tubes (0.5 mL)	1,000 tubes	AM12275
RNase-free Microfuge Tubes (0.5 mL)	1,000 tubes	AM12300
Nonstick, RNase-free Microfuge Tubes (0.5 mL)	500 tubes	AM12350
RNase-free Microfuge Tubes (1.5 mL)	500 tubes	AM12400
RNase-free Microfuge Tubes (2.0 mL)	500 tubes	AM12425
Conical Tubes (15 mL) (racked)	500 tubes	AM12500
Conical Tubes (50 mL) (racked)	200 tubes	AM12501
DEPC-Treated Water	10 x 50 mL	AM9906
	1 x 100 mL	AM9915G
	5 x 100 mL	AM9916
	1 x 500 mL	AM9920
	1 x 1,000 mL	AM9922
	4 x 1,000 mL	4387937
Nuclease-Free Water (not DEPC-Treated)	10 x 50 mL	AM9937
	1 x 100 mL	AM9938
	5 x 100 mL	AM9939
	1 x 500 mL	AM9930
	1 x 1,000 mL	AM9932
	4 x 1,000 mL	4387936

Product	Quantity	Cat. No.
RNA lab essentials (continued)		
RT-PCR Grade Water	10 x 1.5 mL	AM9935
UltraPure DNase/RNase-Free Distilled Water	500 mL	10977015
	10 x 500 mL	10977023
RNaseZap RNase Decontamination Solution	250 mL	AM9780
	6 x 250 mL	AM9782
	4 L	AM9784
RNaseZap RNase Decontamination Wipes	100 sheets	AM9786
RNaseZap RNase Decontamination Wipes Refill	300 sheets	AM9788
ElectroZap Electrode Decontamination Solution	250 mL	AM9785
RNase AWAY Decontamination Reagent	250 mL	10328011
	50 x 1.5 mL	AM7022
RNAlater Stabilization Solution	20 x 5 mL	AM7023
	1 x 100 mL	AM7020
	1 x 250 mL	AM7024
	1 x 500 mL	AM7021
RNAlater-ICE Frozen Tissue Transition Solution	25 mL	AM7030
	10 x 25 mL	4427575
THE RNA Storage Solution	10 x 1 mL	AM7000
	50 mL	AM7001
Tempus Blood RNA Tube	50 tubes	4342792
LeukoLOCK Total RNA Isolation System	20 preps	AM1923
RNA quantitation		
Qubit 3 Fluorometer	1 each	Q33216
Qubit 3 Quantitation Starter Kit	1 kit	Q33217
	100 assays	Q32852
Qubit RNA HS Assay Kit	500 assays	Q32855
	100 assays	Q10210
Qubit RNA BR Assay Kit	500 assays	Q10211
	100 assays	Q32880
Qubit microRNA Assay Kit	500 assays	Q32881

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