

Mol Bio

# INSIGHTS

..... Tips, tools, and  
..... trusted products

Get an inside look at  
RNA workflow solutions

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Lab tips

Recommended workflow products

Educational resources

Speaking of Mol Bio podcast

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# More RNA solutions, more value

## Get what you need, from isolation to validation

While the fundamentals of molecular biology techniques are straightforward, there are many small details that can cause a seemingly simple experiment to fail. To help you avoid this frustration, here are some trusted products, tools, and tips to help you move forward in your research journey.



### RNA isolation



#### Rely on short, simple protocols to help isolate pure RNA quickly

Thermo Scientific™ GeneJET™ RNA purification kits are reliable and affordable tools for purification of total RNA.

[thermofisher.com/genejet](https://thermofisher.com/genejet)



#### Inside tip

Isolate RNA from many samples at once. Thermo Scientific™ KingFisher™ purification instruments automate the extraction and purification of DNA, RNA, proteins, and cells, helping save time and removing manual steps.

[thermofisher.com/kingfisher](https://thermofisher.com/kingfisher)



#### Inside tip

Quickly calculate the  $T_m$  of primers for different DNA polymerases with our online calculator.

[thermofisher.com/tmcalculator](https://thermofisher.com/tmcalculator)



### RNA synthesis

#### Enable strict specificity in your *in vitro* transcriptions

Thermo Scientific™ RNA polymerases used for *in vitro* transcription and synthesis of unlabeled and labeled RNA are available in a standard concentration (20 U/μL) and a high concentration (HC; >100 U/μL).

[thermofisher.com/rnapolymerases](https://thermofisher.com/rnapolymerases)



### cDNA synthesis



#### Enable reliable and efficient cDNA synthesis in fast reaction times (15–30 minutes)

Thermo Scientific™ Maxima™ H Minus Reverse Transcriptase provides high cDNA synthesis yields over a wide range of temperatures and RNA inputs (1 pg–2.5 μg).

[thermofisher.com/maxima](https://thermofisher.com/maxima)



#### Inside tip

Use freshly prepared RNA. Check the integrity of RNA prior to cDNA synthesis by agarose gel electrophoresis.

[thermofisher.com/maximalabaid](https://thermofisher.com/maximalabaid)



#### Protect your RNA

RNA is degraded by RNases. Protect your RNA with Thermo Scientific™ RiboLock™ RNase Inhibitor.

[thermofisher.com/ribolock](https://thermofisher.com/ribolock)



#### Inside tip

Identify and prevent potential issues with cDNA synthesis. Get the troubleshooting guide for the most common reverse transcription applications.

[thermofisher.com/rtroubleshooting](https://thermofisher.com/rtroubleshooting)



### Amplification



#### Accurate amplification and no optimization

Thermo Scientific™ Phusion™ Plus DNA Polymerase is a proofreading, hot-start enzyme with special buffer formulated for a universal annealing temperature—no  $T_m$  calculation needed. Phusion Plus DNA Polymerase enables generation of PCR amplicons with very high sequence accuracy, sensitivity, and specificity.

[thermofisher.com/phusionplus](https://thermofisher.com/phusionplus)



#### Simplified reaction setup

Due to specially formulated reaction buffers, Thermo Scientific™ DreamTaq™ DNA Polymerase enables robust DNA amplification with minimal optimization of reaction conditions.

[thermofisher.com/dreamtaq](https://thermofisher.com/dreamtaq)



#### Choosing your thermal cycler

Key to the success of your PCR experiments, Applied Biosystems™ thermal cyclers help generate precise, consistent, and reproducible results.

[thermofisher.com/thermalcyclers](https://thermofisher.com/thermalcyclers)



### Cloning



#### Eliminate buffer changes and purification steps

With Thermo Scientific™ FastDigest™ restriction enzymes, perform double and multiple digestion in one universal buffer. DNA-/RNA-modifying enzymes have 100% activity in an optimized Thermo Scientific™ FastDigest™ buffer.

[thermofisher.com/fastdigest](https://thermofisher.com/fastdigest)



#### Inside tip

Do you need an easy way to select high-quality, RNase-free certified PCR and qPCR plastics compatible with your instrument? Use our interactive selection tool to find exceptional plastics for your experiments.

[thermofisher.com/findplastics](https://thermofisher.com/findplastics)



#### Don't forget your primers

Design and purchase through this easy-to-use ordering portal.

[thermofisher.com/oligos](https://thermofisher.com/oligos)



#### High-efficiency PCR cloning in 5 minutes

Try the Thermo Scientific™ CloneJET™ PCR Cloning Kit, an all-inclusive kit with primers and a control.

[thermofisher.com/tscloning](https://thermofisher.com/tscloning)



### Electrophoresis



#### Get clear results

Thermo Scientific™ RiboRuler™ RNA ladders for RNA fragment sizing and in-gel quantification are free from degraded RNA that can interfere with RNA quantification.

[thermofisher.com/riboruler](https://thermofisher.com/riboruler)



#### Inside tip

Skip a step and avoid messy weighing with Thermo Scientific™ TopVision™ Agarose Tablets.

[thermofisher.com/topvision](https://thermofisher.com/topvision)



#### Inside tip

Eliminate the hassle of gel preparation with the help of Invitrogen™ E-Gel™ Power Snap systems. Demo one today.

[thermofisher.com/e-gel](https://thermofisher.com/e-gel)





	Recommended products	Quantity	Cat. No.
RNA isolation	GeneJET RNA Purification Kit	50 preps	K0731
	GeneJET RNA Purification Kit	250 preps	K0732
cDNA/RNA synthesis	RiboLock RNase Inhibitor (40 U/μL)	2,500 units	EO0381
	Maxima H Minus First Strand cDNA Synthesis Kit	20 reactions	K1651
	Maxima H Minus First Strand cDNA Synthesis Kit	100 reactions	K1652
	Maxima H Minus cDNA Synthesis Master Mix	50 reactions	M1661
	Maxima H Minus cDNA Synthesis Master Mix	200 reactions	M1662
	Maxima H Minus Reverse Transcriptase	2,000 units	EP0751
	Maxima H Minus Reverse Transcriptase	10,000 units	EP0752
	RevertAid First Strand cDNA Synthesis Kit	20 reactions	K1621
	RevertAid First Strand cDNA Synthesis Kit	100 reactions	K1622
Amplification	T7 RNA Polymerase (20 U/μL)	5,000 units	EP0111
	T3 RNA Polymerase (20 U/μL)	2,000 units	EP0101
	SP6 RNA Polymerase (20 U/μL)	2,000 units	EP0131
	DreamTaq DNA Polymerase	200 units	EP0701
	DreamTaq Green PCR Master Mix (2X)	200 reactions	K1081
	Phusion Plus DNA Polymerase	100 x 50 μL reactions	F630S
	Phusion Plus PCR Master Mix	100 x 50 μL reactions	F631S
	Tubes and Ultra Clear Caps, strips of 8	120 strips	AB1183
	EasyStrip Plus Tube Strip with Attached Flat Caps	250 strips	AB2000
	PCR Plate, 96-well, non-skirted	25 plates	AB0600
	PCR Plate, 96-well, semi-skirted, flat deck	25 plates	AB1400
	Armadillo PCR Plate, 96-well, clear frame, clear wells	25 plates	AB2396
	Adhesive PCR Plate Seals	100 sheets	AB0558
	Adhesive PCR Plate Foils	100 sheets	AB0626
Cloning	FastDigest HindIII	20 reactions	FD0504
	FastDigest Esp3I	20 reactions	FD0454
	FastDigest NotI	250 reactions	FD0596
	FastDigest XhoI	400 reactions	FD0694
	Rapid DNA Ligation Kit	150 reactions	K1423
	Phusion Site-Directed Mutagenesis Kit	20 reactions	F541
	CloneJET PCR Cloning Kit	20 reactions	K1231
	DH10B Competent Cells	10 x 100 μL	EC0113
	DH5α Competent Cells	10 x 100 μL	EC0112
Electrophoresis	RiboRuler Low Range RNA Ladder	5 x 20 μL	SM1831
	RiboRuler Low Range RNA Ladder, ready-to-use	5 x 40 μL	SM1833
	RiboRuler High Range RNA Ladder	5 x 20 μL	SM1821
	RiboRuler High Range RNA Ladder, ready-to-use	5 x 40 μL	SM1823
	TopVision Agarose Tablets	200 tablets (0.5 g each)	R2801

## Master molecular biology

Looking to review molecular biology basics, gain confidence in technologies, or refresh your expertise? We have online educational resources to help you learn about cloning, PCR, reverse transcription, and more at your own pace and on your own time. Explore this one-stop education hub to help enrich yourself with technical knowledge.

[thermofisher.com/mbschool](https://thermofisher.com/mbschool)



### Online tools

Interactive online tools for PCR annealing temperature calculation, restriction enzyme selection, and more.

[thermofisher.com/mbtools](https://thermofisher.com/mbtools)



### On-demand webinars

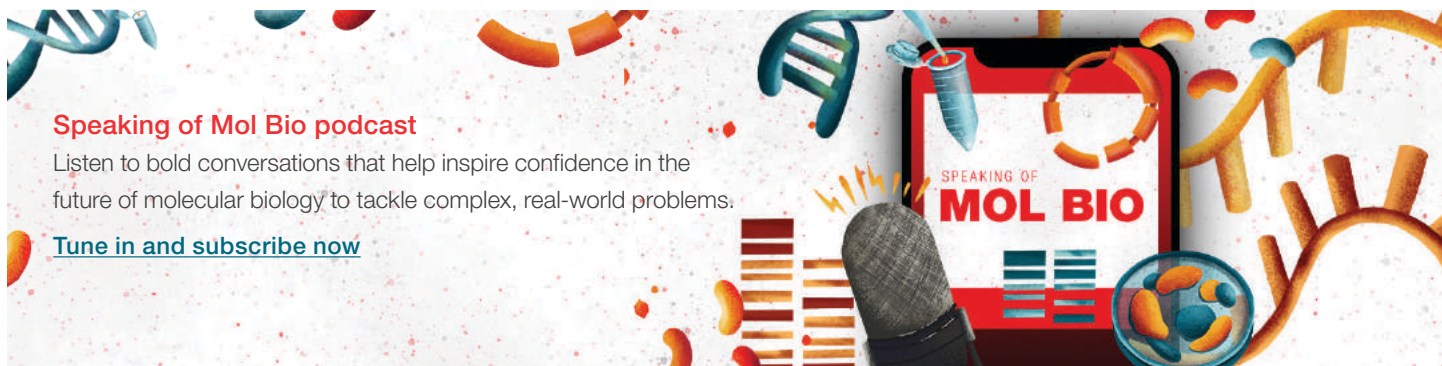
Gain an in-depth understanding of molecular techniques and tools to help advance your research.

[thermofisher.com/mbwebinars](https://thermofisher.com/mbwebinars)



When working in the lab, understanding your unique research strengths can help you work more efficiently and help drive your innovations forward.

[Take the quiz](#) and discover your #MolBioResearchStyle



### Speaking of Mol Bio podcast

Listen to bold conversations that help inspire confidence in the future of molecular biology to tackle complex, real-world problems.

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