

# life Lab

PRODUCTS, INFORMATION, AND SCIENTAINMENT  
JANUARY - JUNE 2016

## Watch Your Fingers Handle the Sharpest New Technologies

page 2

## Find the RNA Purification Product that's Right for You

page 4

## How Do You Want to Clone? Use Our Handy Selection Guide

page 5

## Experience WOW! Cytometry

page 6

## See Western Blot Bands More Clearly

page 7



Save 25% on  
live/dead fixable  
dyes  
page 6



Save 15% on  
western blot  
reagents  
page 7

# WATCH YOUR FINGERS

You're about to handle the sharpest new Invitrogen technologies

# Platinum *Taq* Hot Start DNA Polymerase

## ACHIEVE PLATINUM STATUS – HOLD YOUR WORK TO A HIGHER STANDARD

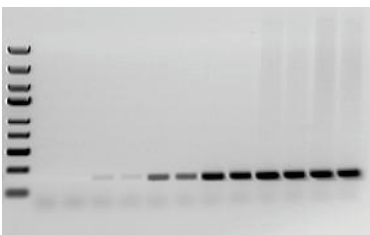
**You demand accurate, robust results.** You expect specificity and reliability. Settle for nothing less than the hot-start PCR enzyme widely trusted and cited by researchers in PCR applications such as genotyping, gene expression profiling and next-generation sequencing. Accelerate your experiments with Invitrogen™ Platinum™ *Taq* reagents that offer:

- high specificity and increased yields with antibody-mediated hot-start PCR
- convenient room-temperature reaction setup
- direct gel loading with green buffer formats
- versatile formulation for a broad range of amplicons

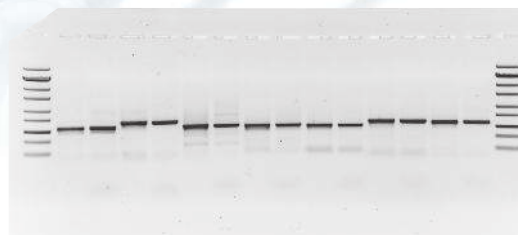
[thermofisher.com/platinumtaq](http://thermofisher.com/platinumtaq)



**Invitrogen™ Platinum™ *Taq* DNA Polymerase Trusted and true hot-start polymerase**



**Figure 1. High sensitivity and reliable amplification from low amounts of input DNA.** Amplification of a 222 bp human gDNA fragment from DNA input ranging from 0.5 ng (~ 150 copies) to 1 µg using Invitrogen Platinum Green Hot Start PCR 2x Master Mix. Each reaction was performed in duplicate. NTC – no template control.



**Figure 2. Invitrogen Platinum Hot Start PCR Master Mix provides robust amplification of GC-rich DNA.** 700–750 bp GC-rich fragments were amplified from 30 ng of human gDNA using Platinum Hot Start PCR 2x Master Mix supplemented with GC Enhancer (P) or hot-start *Taq* PCR master mixes from other vendors (O, G).

**FREE  
SAMPLE**

**Of the NEW Invitrogen™ Platinum™ Hot Start PCR 2X Master Mix and Invitrogen™ Platinum™ Green Hot Start PCR 2X Master Mix**

No promotion code required. 10-reaction sample size. Offer expires 30th June 2016.

Terms and conditions apply.

**Find out more at [thermofisher.com/promoproducts](http://thermofisher.com/promoproducts)**

Contact your local authorised distributor today for more information and a quote.

## NEVER SETTLE FOR SECOND BEST

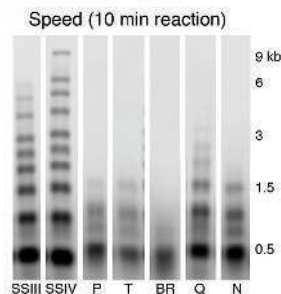
### INTRODUCING THE NEW INVITROGEN SUPERSCRIPT IV REVERSE TRANSCRIPTASE



The new Invitrogen™ SuperScript™ IV Reverse Transcriptase (RT) builds on the trusted reliability of our Invitrogen™ SuperScript™ III RT with quick, robust, sensitive and reproducible cDNA synthesis for all sample types.

SuperScript IV Reverse Transcriptase (RT) offers these four great features

1. As little as 10-min reaction time
2. Up to 100x higher yield with degraded samples
3. Ct values reduced by as much as 8
4. Works even with tough samples (blood, plant and more) thanks to its superior resistance to common RT inhibitors



Fast cDNA synthesis rate of SuperScript IV (SSIV) compared to SuperScript III (SSIII) and RTs from other vendors.



## TECH TALK

Our tech service experts answer a few of your questions.

**Q** What are the key differences between SuperScript III and SuperScript IV Reverse Transcriptases?

**A** The SuperScript IV enzyme has been further engineered for performance optimisation in the presence of inhibitors, and the reaction buffer has also been optimised for robust cDNA synthesis from a wide range of samples.

**Q** Can I get a comparable level of cDNA yield and length using the SuperScript IV Reverse Transcriptase 10-minute reaction time as when using the 50-minute reaction time for SuperScript III Reverse Transcriptase?

**A** When compared with SuperScript III Reverse Transcriptase (and other manufacturers' RTs) in a synthesis reaction of a 9 kb cDNA, SuperScript IV Reverse Transcriptase performed successful synthesis in just 10 minutes and did so with comparable (or improved) yield (as shown by gel band density). See figure at left.

**Q** For real-time PCR applications, do you recommend the SuperScript IV first-strand synthesis system over the SuperScript VILO Master Mix?

**A** For qPCR applications, we continue to recommend the Invitrogen™ SuperScript™ VILO kit and master mix. The SuperScript VILO kit has been specifically designed for great performance and convenience for qRT-PCR applications.

**Q** Are there any significant changes in the SuperScript IV RT protocol compared to the SuperScript III RT protocol?

**A** The only change is that the reverse transcription incubation time has been reduced from 50 minutes to 10 minutes. All the other parameters and steps are the same.



Watch the video "SuperScript IV—cDNA synthesis in confidence" at:

[thermofisher.com/ssiv](http://thermofisher.com/ssiv)

# 25% OFF

**On SuperScript reverse transcriptase**

Quote promotion code RCS017. Offer expires 30th June 2016. Terms and conditions apply.

Find out more at: [thermofisher.com/promoproducts](http://thermofisher.com/promoproducts)

Contact your local authorised distributor today for more information and a quote.

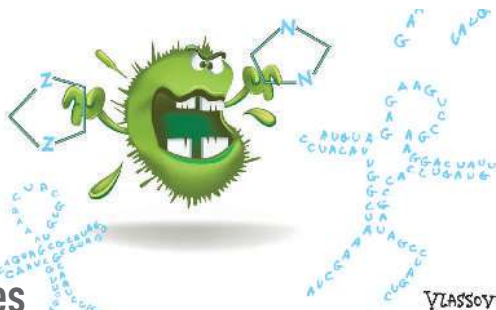
# FIND THE **RNA/DNA** PURIFICATION PRODUCT THAT'S RIGHT FOR YOU!

**FREE  
ONLINE  
TOOL!**

It's not always easy to decide exactly which of the many available products is best suited for your specific experiment. Our convenient, interactive RNA product selection guide will help you find the purification product that is recommended for your sample type, starting sample amount, chosen purification technology and downstream application.

**Check out and bookmark the online selection guide at:**

[thermofisher.com/rnaselection](http://thermofisher.com/rnaselection)



## ARE RNases

### Eating your samples alive?

Protect your precious samples with Invitrogen™ RNaseZAP™ products that will keep your workspace RNase-free.

[thermofisher.com/rnasezap](http://thermofisher.com/rnasezap)

**For tips on safely handling your samples go to:**

[thermofisher.com/rnase](http://thermofisher.com/rnase)



## SIMPLE AND SAFE

### Total RNA isolation

Use the column-based Invitrogen™ PureLink™ RNA Mini Kit for easy, reliable and rapid isolation of high-quality total RNA from a wide variety of sources. Bonus: there's no need for hazardous reagents like phenol.

[thermofisher.com/purelink](http://thermofisher.com/purelink)

## Learning Made Easier

**Our scientists are here to help you.**

Our webinar series is designed to help educate you in **RNA technologies.**

Catch up with our most recent RNA basics webinar.

[thermofisher.com/rnawebinars](http://thermofisher.com/rnawebinars)



**SAVE  
25%**

### On RNA extraction

Quote promotion code RCS013. Offer expires 30th June 2016. Terms and conditions apply.

**For more information go to [thermofisher.com/promoproducts](http://thermofisher.com/promoproducts)**

Contact your local authorised distributor today for more information and a quote.

# HOW DO YOU WANT TO CLONE?

I NEED HIGHLY EFFICIENT,  
ONE-STEP CLONING OF  
PCR PRODUCTS

INVITROGEN™ TOPO™  
CLONING TECHNOLOGY

[thermofisher.com/topo](http://thermofisher.com/topo)

I WANT A ONE-BUFFER,  
ONE-PROTOCOL SOLUTION

NEW

Introducing Invitrogen™ Anza™  
Restriction Enzyme Cloning System

- 100% activity and functionality in a single buffer
- One digestion protocol for all enzymes and all DNA types
- Complete digestion in 15 minutes, with flexibility of overnight digestion without star activity

Learn more or request a free sample\* of selected Anza enzymes at:  
[thermofisher.com/anza](http://thermofisher.com/anza)

\*See back cover for terms and conditions

I WANT TO SHUTTLE  
MY GOI BETWEEN MULTIPLE  
EXPRESSION VECTORS  
WITHOUT RE-CLONING

INVITROGEN™ GATEWAY™  
CLONING TECHNOLOGY

[thermofisher.com/gateway](http://thermofisher.com/gateway)

# SAVE 25%

When you buy 2 or more Invitrogen™ cloning products, including competent cells and plasmid purification kits

Use promotion code RSC014. Offer expires 30th June 2016. Terms and conditions apply.

For more information go to [thermofisher.com/promoproducts](http://thermofisher.com/promoproducts)

Contact your local authorised distributor today for more information and a quote.

25% on Anza cloning and restriction enzymes



25% on TOPO cloning kits



25% on Gateway and Seamless cloning kits



25% on Competent cells



25% on Plasmid purification kits



# FLOW CYTOMETRY

invitrogen

Innovative instruments, reagents, antibodies, and software—all powered by Invitrogen™ reagents



**SPEED THAT MATTERS:  
10x FASTER, SAME  
DATA QUALITY**

MODULAR DESIGN

FAST DETECTION SPEED

DISTINCTIVE ACQUISITION AND ANALYSIS SOFTWARE

CONVENIENT SIZE

## EXPERIENCE WOW! CYTOMETRY

Do you assess a lot of cells to get the data you need? Run dilute, precious, or large volume samples? Invitrogen™ Attune™ NxT Flow Cytometer is the only one that can run at 35,000 events/sec at flow rates up to 1 mL/min.\* All with the same CVs you get at lower speeds. Don't waste time or compromise your data quality.

Take the interactive tour or request a demo at:  
[thermofisher.com/attune](http://thermofisher.com/attune)

## 6-COLOUR, NO-WASH, NO-LYSE, NO COMP, NO KIDDING

In flow cytometry, compensation is critical for success, yet poorly understood. Download this app note to better understand the process of setting up and achieving panel design success in your lab.

[thermofisher.com/nocompapp](http://thermofisher.com/nocompapp)



Download the  
app note

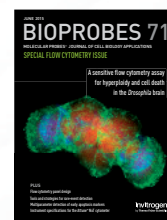
**SAVE  
25%**

**Try flow cytometry proof live/dead  
fixable dyes today and save 25%**

Use promotion code RCS016. Offer expires 30th June 2016.  
Terms and conditions apply.

Find out more at: [thermofisher.com/promoproducts](http://thermofisher.com/promoproducts)

Contact your local authorised distributor today for more information and a quote.



## BioProbes 71

The Flow Cytometry Issue

Get your free copy of the latest issue of *BioProbes™ Journal*.

[thermofisher.com/bioprobes71](http://thermofisher.com/bioprobes71)

\*Other cytometers have comparable event rates, but cannot match the flow rates at the same time.

## See western blot bands more clearly than ever before

**NEW**

### Long shelf-life Tris-glycine gels with 2X sample volume capacity



Invitrogen™ Novex™ WedgeWell™ Tris-Glycine gels are precast mini gels for separation of proteins by polyacrylamide gel electrophoresis (PAGE) allowing the use of Laemmli sample and running buffers. These gels enable high quality performance and separation of a wide range of proteins into well-resolved bands. Novex

WedgeWell Tris-Glycine gels are designed for use in our Invitrogen™ Mini Gel Tank.

- **Wedge-shaped wells** —easily load up to 60 µL of sample per well
- **High performance** —excellent protein band resolution and sharpness
- **Improved shelf life** —store gels for up to 12 months at 4°C
- **Fast run conditions** —quickly separate proteins using constant voltage in less than 60 minutes
- **Compatible** with native and denatured protein samples



### ONE TANK - 181 GELS MINI GEL TANK

Now run your favourite Invitrogen™ NuPAGE™, Invitrogen™ Novex™ and Invitrogen™ Bolt™ gels in the same tank.

Our Mini Gel Tank enables versatility, easy loading and enhanced visualisation.

**Explore more choices at:**

[thermofisher.com/minigeltank](http://thermofisher.com/minigeltank)

**SAVE  
15%**

**On a selection of western blot reagents**

Use promotion code RCS015. Offer expires 30th June 2016. Terms and conditions apply.

**Find out more at:** [thermofisher.com/promoproducts](http://thermofisher.com/promoproducts)

Contact your local authorised distributor today for more information and a quote.

# WE'RE HERE TO HELP YOU SAVE

To make your research a bit more affordable, we've featured many money-saving promotions throughout this issue. For your convenience, some favourites are listed here.

If you'd like more information about any of these promotions, or other promotions found in this issue, simply go to: [thermofisher.com/promoproducts](http://thermofisher.com/promoproducts)

To find out more about any of the promotions in this booklet, or to order, please contact your local authorised distributor.

SAVE  
25%



On SuperScript reverse transcriptase

Use promotion code RCS017

FREE  
SAMPLE



Of the new Platinum Hot Start PCR 2X Master Mix and Platinum Green Hot Start PCR 2X Master Mix

Find out more [thermofisher.com/promoproducts](http://thermofisher.com/promoproducts)

SAVE  
25%



On our cloning workflow products

Use promotion code RSC014

SAVE  
15%



On western blot reagents

Use promotion code RCS015

SAVE  
25%



On our flow cytometry proof live/dead fixable dyes

Use promotion code RCS016

Life in the Lab, January 2016 • "Life in the Lab" is printed by Thermo Fisher Scientific • 102 Fountain Crescent, Inchinnan Business Park, Paisley, PA4 9RF  
[thermofisher.com](http://thermofisher.com) • For Research Use Only. Not for use in diagnostic procedures, unless otherwise indicated.

© 2016 Thermo Fisher Scientific Inc. All rights reserved. All other trademarks are the property of Thermo Fisher Scientific and its subsidiaries unless otherwise specified. C038011 1115

#### Abbreviated terms and conditions

Use promotion codes as noted. All promotions are open to qualified customers in Afghanistan, Albania, Algeria, Armenia, Azerbaijan, Bahrain, Belarus, Benin, Bosnia & Herzegovina, Bulgaria, Burundi, Cameroon, Cape Verde, Croatia, Cyprus, Egypt, EIRE, Eritrea, Estonia, Ethiopia, Gambia, Georgia, Ghana, Greece, Iceland, Iraq, Israel, Ivory Coast, Jordan, Kazakhstan, Kenya, Kuwait, Kyrgyzstan, Latvia, Lebanon, Libya, Lithuania, Macedonia, Madagascar, Malta, Mauritius, Moldova, Montenegro, Morocco, Nigeria, Oman, Qatar, Romania, Russia, Rwanda, Saudi Arabia, Senegal, Serbia, Seychelles, Slovenia, Tajikistan, Tanzania, Tunisia, Turkey, Turkmenistan, UAE, Uganda, Ukraine, Uzbekistan and Yemen only. All offers will apply to qualifying orders received no later than 30 June, 2016 (unless otherwise noted), or until promotional supplies are depleted, whichever comes first. Promotion code must be presented at the time of order. Discounts apply to the list price in effect at the time the order is received. Each promotion cannot be combined with other discounts or promotions. All offers are void where prohibited, licensed, or restricted by federal, state, provincial, or local laws or regulation or agency/institutional policy. Other restrictions may apply. To see complete terms and conditions, go to [thermofisher.com/promoproducts](http://thermofisher.com/promoproducts)

**ThermoFisher**  
SCIENTIFIC