



molecular biology tools

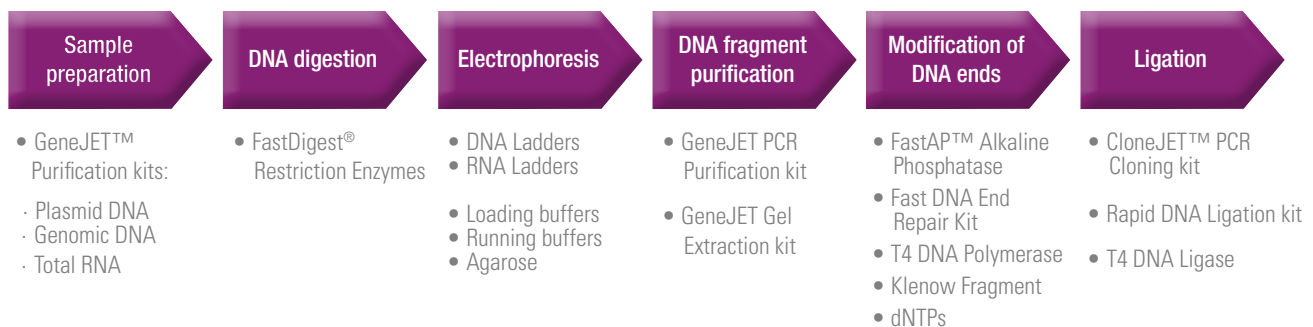
- **Restriction digestion**
Fast DNA digestion in the universal Thermo Scientific FastDigest buffer
- **Molecular cloning**
Fast ligation and positive selection of recombinant clones
- **Nucleic acid purification**
High yields of pure DNA & RNA from various sources
- **DNA and RNA electrophoresis**
Wide range of DNA and RNA ladders for a variety of applications
- **Nucleotides**
Highly purified nucleotides supplied in convenient formulations for enzymatic reactions

Streamline your entire cloning workflow

Powerful Thermo Scientific Molecular Biology Tools support and facilitate your entire cloning workflow. Our products meet or exceed the industry's top quality control requirements and provide performance, reliability and consistency. Find out more about our products for each of your cloning workflow steps, starting from sample preparation to DNA digestion, DNA modification, electrophoresis and ligation.

- Specially formulated products to reduce the overall time of your cloning experiments
- High level of compatibility between subsequent experimental steps
- Enzymes and reagents produced in a clean-room, class-D environment and validated according to the most stringent QC tests in the industry

Thermo Scientific Molecular Biology Tools superior products for every step of your cloning workflow



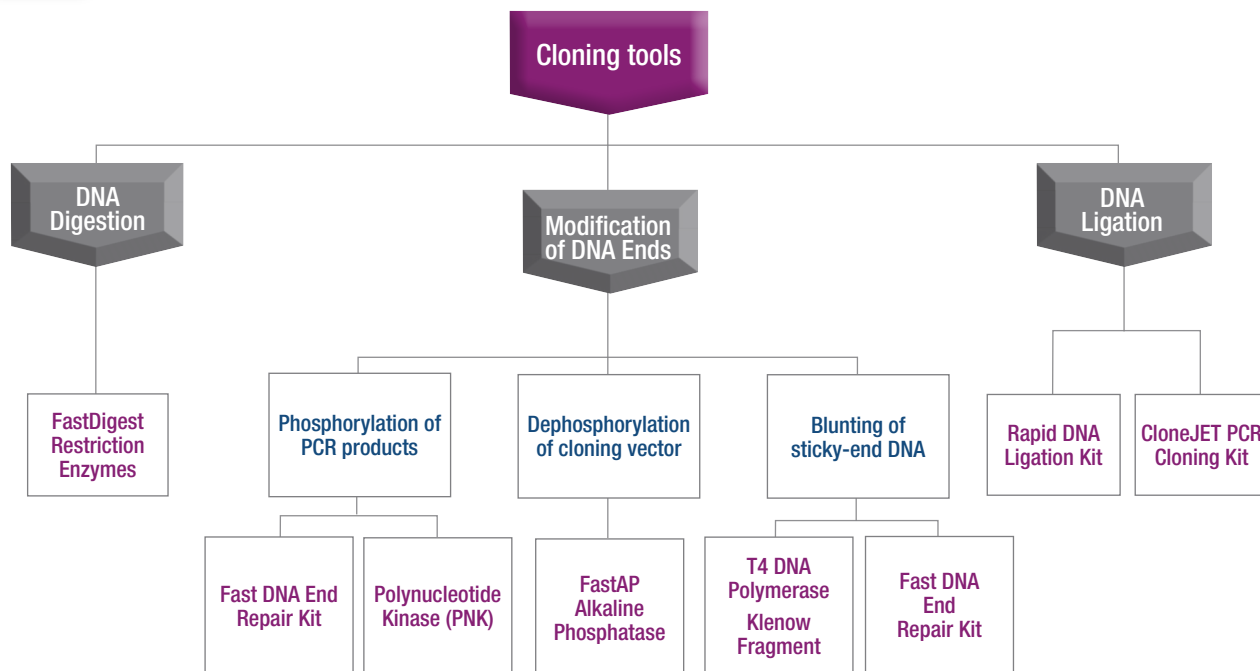
start saving hours off your cloning experiments

	Standard Cloning Workflow	Fast Cloning Workflow
DNA fragment amplification, 1.5 kb	1 hour with <i>Pfu</i> Polymerase Fidelity 8X <i>Taq</i>	20 min with Phusion Polymerase Fidelity 52X <i>Taq</i>
Electrophoresis	1 hour	45 min with GeneRuler DNA ladders
Restriction digestion	1-3 hours	5-15 min with FastDigest enzymes
Vector dephosphorylation and AP inactivation	1.5 hours with CIAP	15 min with FastAP Alkaline Phosphatase
Ligation	1-16 hours with T4 DNA Ligase	5 min with Rapid DNA Ligation Kit
Total	> 6 hours	1.5 hours

enzymes and kits



Thermo Scientific Molecular Biology products for fast DNA restriction digestion, blunting, dephosphorylation and ligation plus a complete PCR cloning kit



FastDigest Restriction Enzymes

An advanced line of 176 restriction enzymes designed for rapid 5-15 minute DNA digestion in the universal FastDigest reaction buffer.

DNA Ligation

The Rapid DNA Ligation kit allows ligation of both blunt- and sticky-end DNA in 5 minutes at room temperature.

DNA Dephosphorylation

FastAP Alkaline Phosphatase is designed for rapid and efficient dephosphorylation of DNA in just 10 minutes. Complete thermal inactivation of the enzyme in 5 minutes makes FastAP a faster and more efficient alternative to shrimp alkaline phosphatase (SAP).

PCR Cloning Kit

The CloneJET PCR Cloning kit is ideal for cloning blunt- or sticky-end PCR products. The kit contains a positive selection vector ensuring that only bacterial cells containing recombinant plasmids are able to form colonies and eliminating the need for expensive blue/white screening.

DNA Blunting

The Fast DNA End Repair kit is formulated for complete DNA blunting and phosphorylation in 5 minutes. The kit is compatible with all types of DNA, including: sheared, sonicated and endonuclease-digested DNA, as well as PCR products and cDNA.

For additional details, visit

www.thermoscientific.com/cloningtools

nucleic acid purification



Thermo Scientific Molecular Biology products designed for efficient isolation and purification of DNA and RNA from various sources

Plasmid DNA

GeneJET Plasmid Miniprep kit

For plasmid DNA purification with yields up to 20 µg from up to 5 ml of culture in less than 14 minutes.

GeneJET Plasmid Midiprep kit

High yields up to 200 µg from up to 50 ml of culture. Ideal for transfection of robust cell lines.

GeneJET Plasmid Maxiprep kit

High yields up to 750 µg from up to 250 ml of culture. Ideal for transfection of robust cell lines.

Genomic DNA

GeneJET Genomic DNA Purification kit

Universal - ideal for genomic DNA purification from cells, tissues, whole blood, bacteria and yeast.

GeneJET Whole Blood Genomic DNA Purification Mini kit

RNA-free genomic DNA from whole blood, bone marrow and cell-free body fluids.

GeneJET Plant Genomic DNA Purification Mini kit

Streamlined protocol without clogging-prone lysate filtration step. Universal protocol provided for various plants and plant tissues.

DNA Fragments

GeneJET Gel Extraction kit

For isolation of DNA fragments from agarose gels in 15 minutes. Up to 95% recovery in the range of 100 bp-10 kb.

GeneJET PCR Purification kit

For isolation of DNA from PCR or other enzymatic reaction mixtures in only 5 minutes. 90-100% recovery in the range of 100 bp-10 kb.

Total RNA

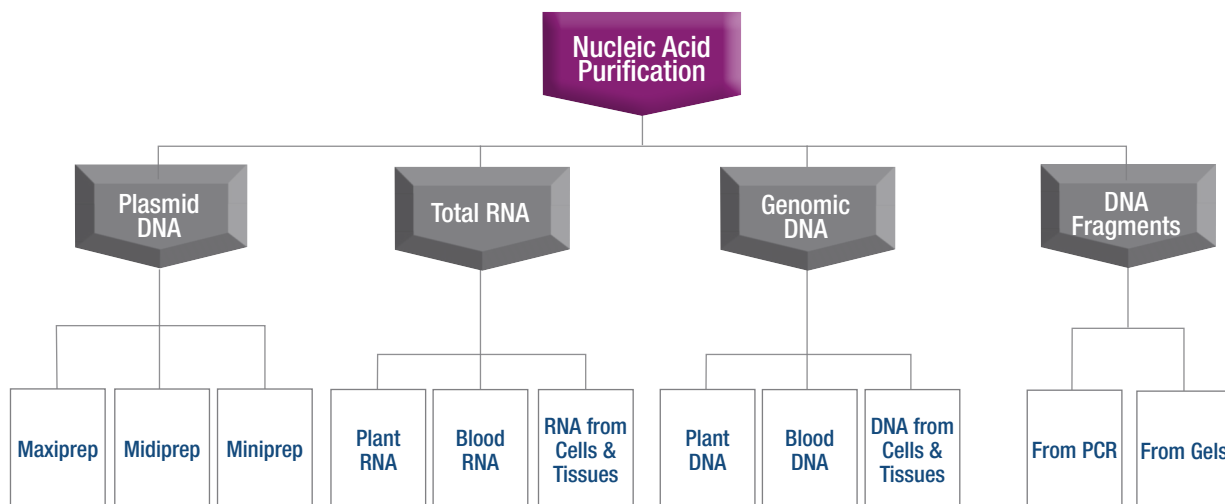
GeneJET Total RNA purification kit Universal - ideal for RNA purification from cells, tissues, blood, bacteria and yeast.

GeneJET Whole Blood RNA Purification Mini kit

Quick protocol with no RBC lysis step. Essentially DNA-free RNA from mammalian blood, nucleated blood, buffy coat and blood fractions.

GeneJET Plant RNA Purification Mini kit

Universal protocol for various plants and plant tissues. RNA viruses can also be purified.



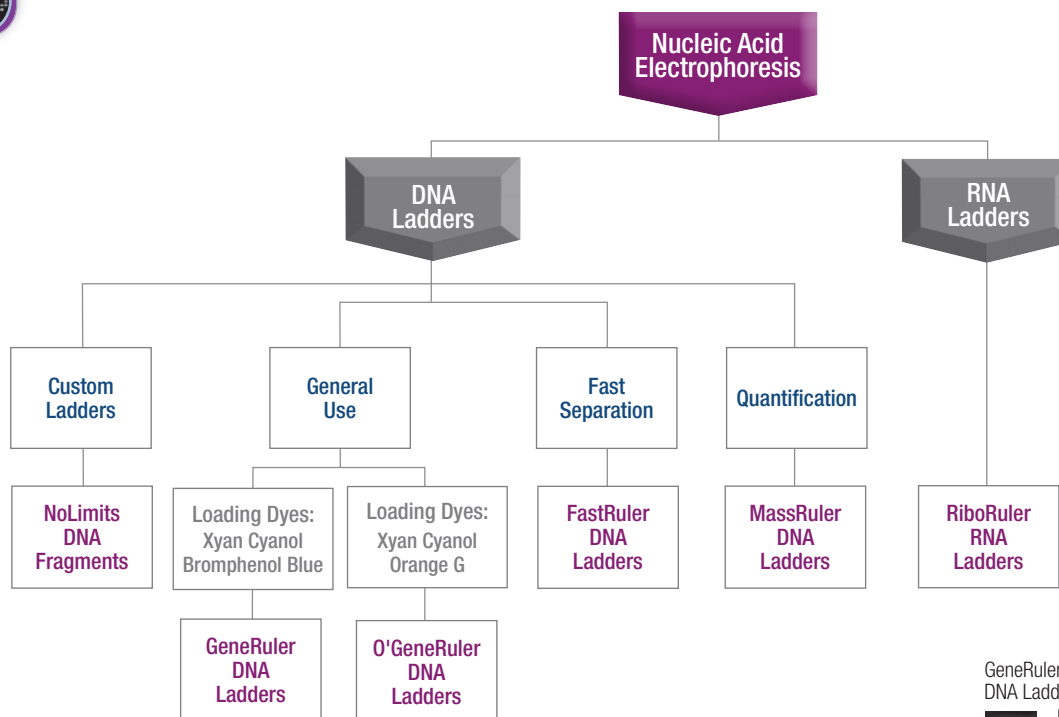
For additional details, visit

www.thermoscientific.com/genejet

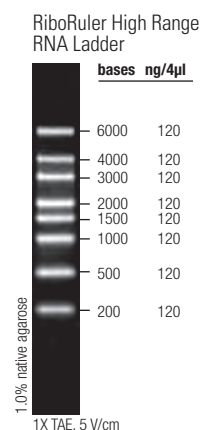
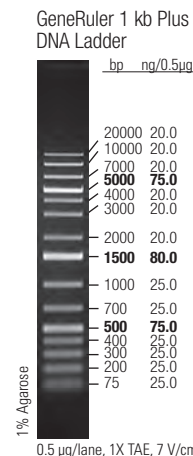
DNA and RNA ladders



Thermo Scientific Molecular Biology products designed for accurate DNA and RNA gel analysis



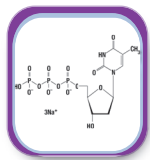
- NoLimits™ Individual DNA Fragments**
 A collection of 36 individual chromatography-purified DNA fragments. Can be used individually or premixed as a custom ladder.
- GeneRuler™, O'GeneRuler™ 1 kb and 100 bp Ladders**
 All-purpose universal DNA Ladders for accurate DNA sizing and in gel quantification.
- GeneRuler, O'GeneRuler Low Range and High Range DNA Ladders**
 Accurate DNA sizing in high or low percentage agarose or polyacrylamide gels.
- FastRuler™ DNA Ladders**
 Five-band DNA ladders for rapid electrophoresis analysis of PCR products.
- MassRuler™ DNA Ladders**
 Specifically-designed for accurate in-gel quantification of DNA samples.
- O'RangeRuler™ DNA Ladders**
 Step ladders consisting of fragments in increasing increments of 5, 10, 20, 50, 100, 200, or 500 bp for precise DNA sizing.
- RiboRuler™ RNA Ladders**
 High and low range RNA ladders for RNA sizing and in-gel quantification.



For additional details, visit

www.thermoscientific.com/ladders

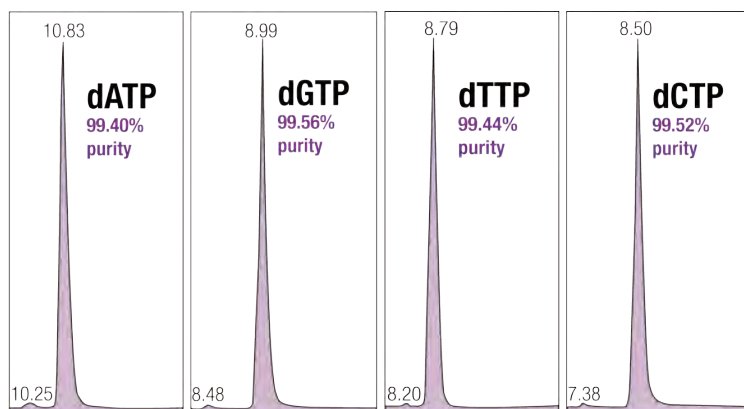
nucleotides



Thermo Scientific dNTPs, NTPs and modified nucleotides are highly purified for direct use in enzymatic reactions

- **dNTPs**
Our dNTPs are >99% pure (by HPLC) and are ideal for use in demanding molecular biology applications including PCR, qPCR, cDNA synthesis and DNA blunting reactions. Our dNTPs are available individually, as sets of four and convenient dNTP mixes of various concentrations.
- **NTPs**
Our NTPs are >99% pure ribonucleotides, ideal for high efficiency *in vitro* transcription reactions.
- **Modified Nucleotides**
Biotin-, fluorescein- and aminoallyl-labeled nucleotides and methylated nucleotides for a variety of labeling applications.

greater than 99% purity by HPLC



For further information visit

www.thermoscientific.com/cloningtools

© 2011 Thermo Fisher Scientific Inc. All rights reserved. All trademarks are the property of Thermo Fisher Scientific Inc. and its subsidiaries.

BN1028111



In the United States:
For customer service, call 1-800-766-7000.
To fax an order, use 1-800-926-1166.
To order online: www.fishersci.com

In Canada:
For customer service, call 1-800-234-7437.
To fax an order, use 1-800-463-2996.
To order online: www.fishersci.ca

Thermo
SCIENTIFIC

Part of Thermo Fisher Scientific