
Parstous
Innovation is our Priority
Highly Pure
Economic
Molecular Grade
Research & Diagnostic
Reagents & Kits


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## About Us:

Since september 2008, our company is focused on providing our customers superior quality molecular biology reagents and kits for research and development. Pars Tous' headquartered is in Toos Industrial Zone, Mashhad, Iran and has an office in Tehran.
Our innovative formula for these products undoubtedly, yield the same results as products from leading company in the life sciences.

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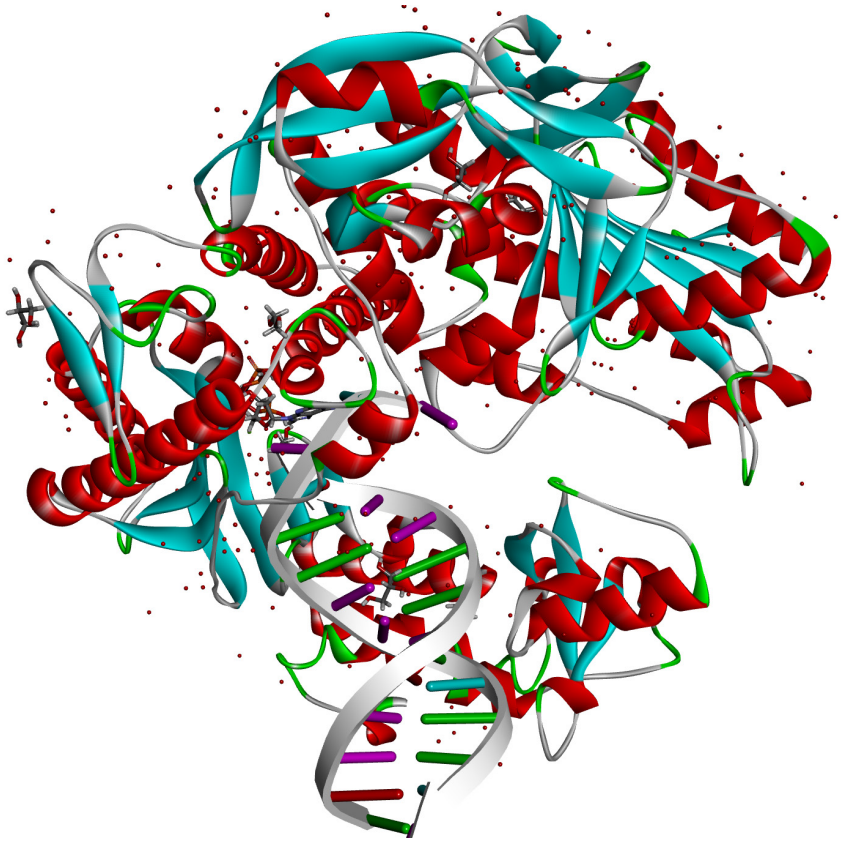
# Molecular Biology Kits



Easy cDNA Synthesis Kit
2X SYBR® Green Real Time PCR
2X Taq PCR Master Mix
One-Step SYBR RT-QPCR Mix

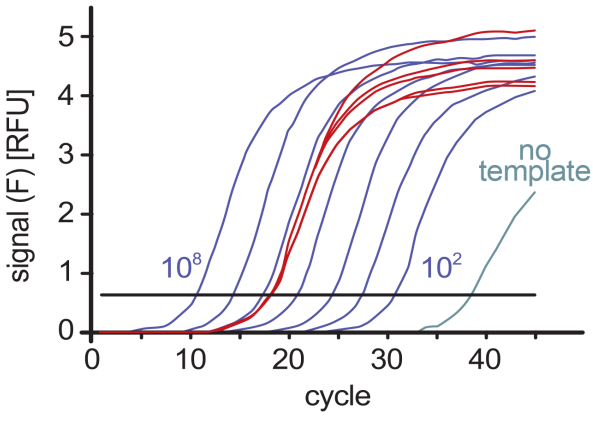
# Easy cDNA Synthesis Kit

Easy cDNA Synthesis kit contains all necessary components for conversion of total RNA or mRNA to the single stranded cDNA. The 2X Buffer mix solutions contains, RT buffer, 1mM dNTP mixture, 8mM MgCl2, Oligo d(t)16, Random hexamer and stabilizer. Enzyme mix contains thermostable H-minus MMLV, RNase Inhibitor and stabilizer.


**Advantages:**
**Reduction of technical errors.**
**Easy protocol.**
**Higher reaction temperature than conventional MMLV.**
**High yield and sensitive.**

# 2X SYBR® Green Real Time PCR

This product is a very sensitive and easy to use for real-time quantitative analysis of DNA and cDNA targets. This product is based on the SYBR Green I and a dual Hot-start Taq (chemically modified and anti taq) plus the pre-optimized buffer solution.




**Advantages:**
**Cost effective**
**Aptamer-based Hot start Taq DNA polymerase**
**Long-term stability**
**Easy to Use**
**Short initial denaturing time**

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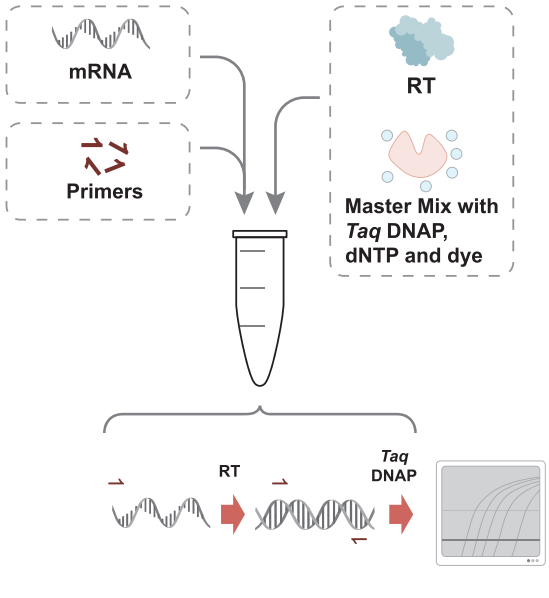
# 2X Taq PCR Master Mix

It contains Taq DNA Polymerase, reaction buffer, dNTPs, protein stabilizer, 2 mM MgCl2, and optimizes the convenience to use by adding sediment for electrophoresis and 2X solution of loading dye.

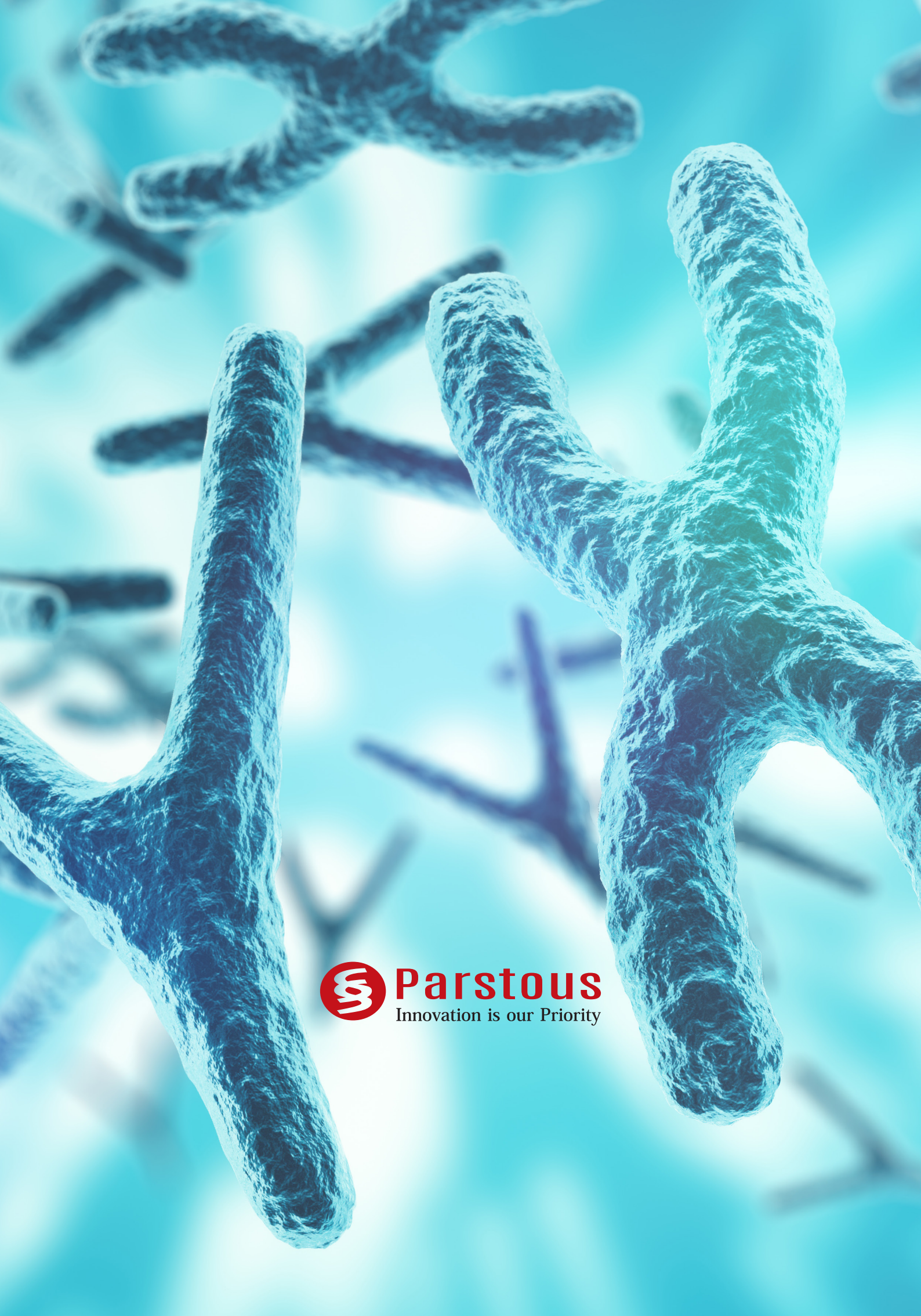

**Advantages:**
**Highly resistant to bad storage or frequent freeze and thaw.**
**Most convenient way to perform a PCR.**
**Reduction of technical errors.**
**No need to add loading dye for electrophoresis.**
**More economic.**

# One-Step SYBR RT-QPCR Mix

In one-step RT-qPCR, cDNA synthesis and qPCR are performed in the same reaction tube, in an optimized buffer.
Gene-specific primers direct cDNA synthesis and amplification of a specific target. Since, specific primers typically anneal at higher temperatures than random primers, one-step protocols often use higher RT reaction temperatures than two-step workflows and employ engineered or novel RTs that can tolerate higher reaction temperatures.
Major advantages of one-step reactions include minimal sample handling, reduced bench time, and closed-tube reactions, reducing chances for pipetting errors and cross-contamination.
This makes one-step an especially strong choice for quantitating the same gene(s) repeatedly, particularly in high-throughput applications and in diagnostic settings.




**Advantages:**
**One-step reaction to quantify the relative amount of RNA**
**Just 10 minutes for RT reaction at 57-59 °C**
**Hot-start polymerase and optimized buffer system to reduce non-specific reactions allowing compatibility with all commonly used qPCR instruments**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# Molecular Biology
# Enzymes & Reagents


Taq DNA Polymerase
KlenTaq DNA Polymerase
Apta-Hot Start Taq DNA Polymerase
Thermo-resistant H-MMuLV RT
Pfu DNA Polymerase
Spidi ™ DNA Polymerase
T4 DNA Ligase
RNAFix ™ Solution

# Taq DNA Polymerase

This product is a chromatography highly purified enzyme with an optimized buffer to give you a specific band. It is provided with an exclusive 10 X reaction buffer to improve sub-optimal PCR caused by templates, high degree of secondary structure or GC-rich regions.


**Advantages:**
**Highly chromatography purified.**
**E. Coli DNA free.**
**Suitable for conventional PCR and TA cloning PCR.**

# KlenTaq DNA Polymerase

KlenTaq DNA Polymerase lacks the N-terminal portion of the gene, encoding Thermus aquaticus (Taq) DNA polymerase, leaving a highly active and even more thermal stable DNA polymerase activity. This enzyme keeps significant activity after exposure to 99 °C.


**Advantages:**
**Wide range of optimal MgCl2 concentration.**
**Two time lower error rate than Taq.**
**Amplicons are T/A Cloning compatible.**
**Mutation analysis with mutation-specific oligonucleotides.**

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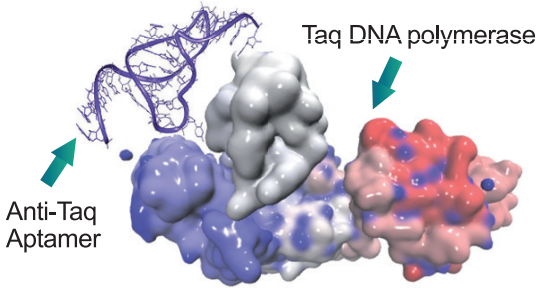
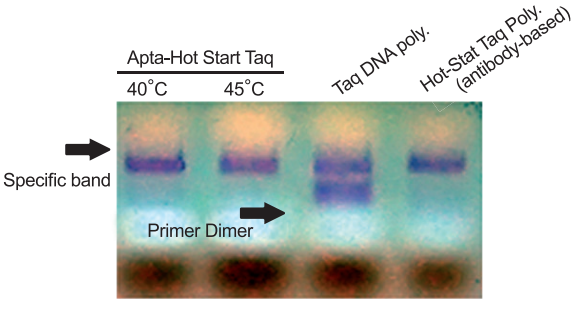
# Apta-Hot Start Taq DNA Polymerase

This is a mixture of Taq DNA polymerase and a temperature sensitive, aptamer -based inhibitor. The inhibitor binds reversibly to the enzyme, inhibiting polymerase activity at temperatures below 40 °C, but releases the enzyme during normal PCR cycling conditions.

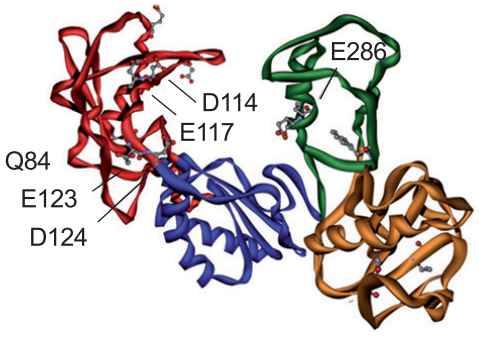



**Advantages:**
**Reduction of primer dimers.**
**No inactivation time.**
**Avoid non-specific bands.**
**More stable than antibody based Hot-start taqs.**
**More economical than antibody based Hot-start taqs.**

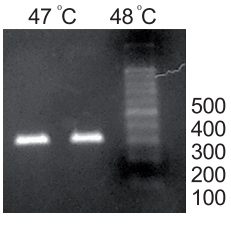



# Thermo-resistant H-MMuLV RT

Recombinant, genetically modified RNA-dependent DNA polymerase, chromatography purified, no RNase H activity, Optimal activity at 47 °C. Reverse Transcriptase has no RNase H activity. Therefore, degradation of RNA does not occur during first strand cDNA synthesis, resulting in higher yields of full-length cDNA from long templates compare to other reverse transcriptases.

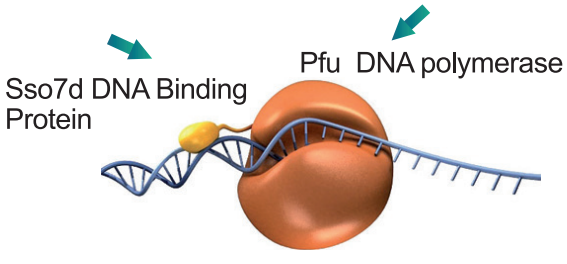



**Advantages:**
**Optimal activity at 47- 48°C.**
**RT of RNAs with a high degree of secondary structure.**
**No RNase H activity.**
**More stable than Wild type MMuLV.**



# Pfu DNA Polymerase

Recombinant highly purified protein of Pfu DNA polymerase exhibits 3´ > 5´ proofreading activity, resulting in over 10-fold higher PCR fidelity than possible with Taq DNA Polymerases.




**Advantages:**
**Pure recombinant enzyme.**
**Over 10-fold higher PCR fidelity than Taq.**
**The enhanced performance by new formula buffer.**

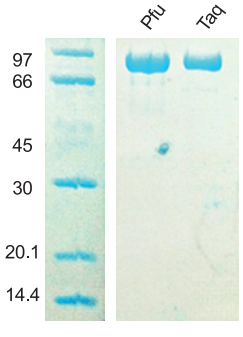



Fig: Analysis of Parstous Taq and Pfu DNA polymerase on 12.5% polyacrylamide gel electrophoresis.
Pfu shows sharp band with a Molecular Weight 90 kDa. Taq indicates a monomer protein with Molecular Weight 94 kDa.

# Spidi ™ DNA Polymerase

A chimeric Pfu which has a DNA binding protein at the N-terminal portion of the gene. This enzyme keeps significant activity after exposure to 99 °C or repeated exposure to 98 °C with more processivity and extension rate than Pfu DNA polymerase.


**Advantages:**
**Faster than Pfu.**
**Amplification of GC rich templates.**
**It is suitable for PCR and primer extension reaction that requires high fidelity when the PCR fragment is relatively higher than 3kb.**

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# T4 DNA Ligase

T4 DNA Ligase is an ultrapure recombinant enzyme purified from Escherichia coli supplied with an optimized 10× Reaction Buffer, which includes ATP and 2X fast buffer. T4 DNA Ligase catalyses the formation of a phosphodiester bond between juxtaposed 5′-phosphoryl and 3′-hydroxyl termini in duplex DNA. It repairs single-strand nicks in duplex DNA and will join both blunt and cohesive-end restriction fragments of duplex DNA or RNA. The enzyme requires ATP as cofactor.

**Features:**

**Free from detectable nonspecific nuclease, endonuclease, RNase and DNase activities**

**Supplied with an optimized reaction buffer for efficient ligation reactions and fast reaction**

**Applications:**

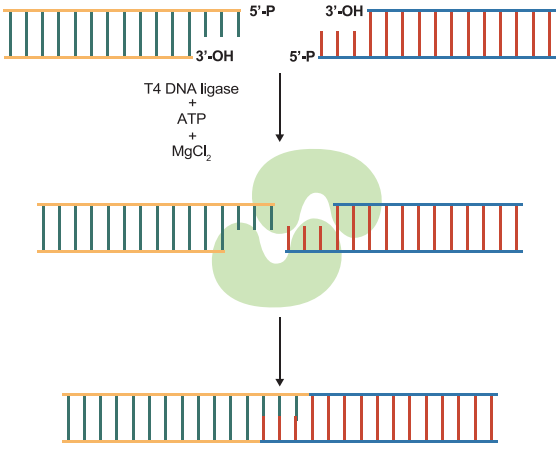
**Cloning of both blunt- and sticky (cohesive)-end restriction fragments**

**Cloning of PCR products**

**Joining linkers and adapters to DNA**

**Nick repair**

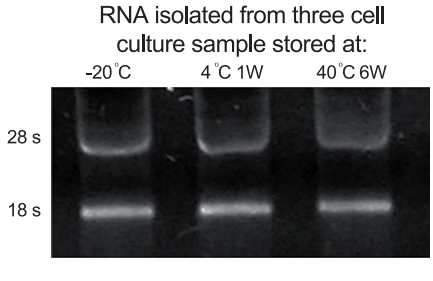
**Self-circularization of linear DNA**

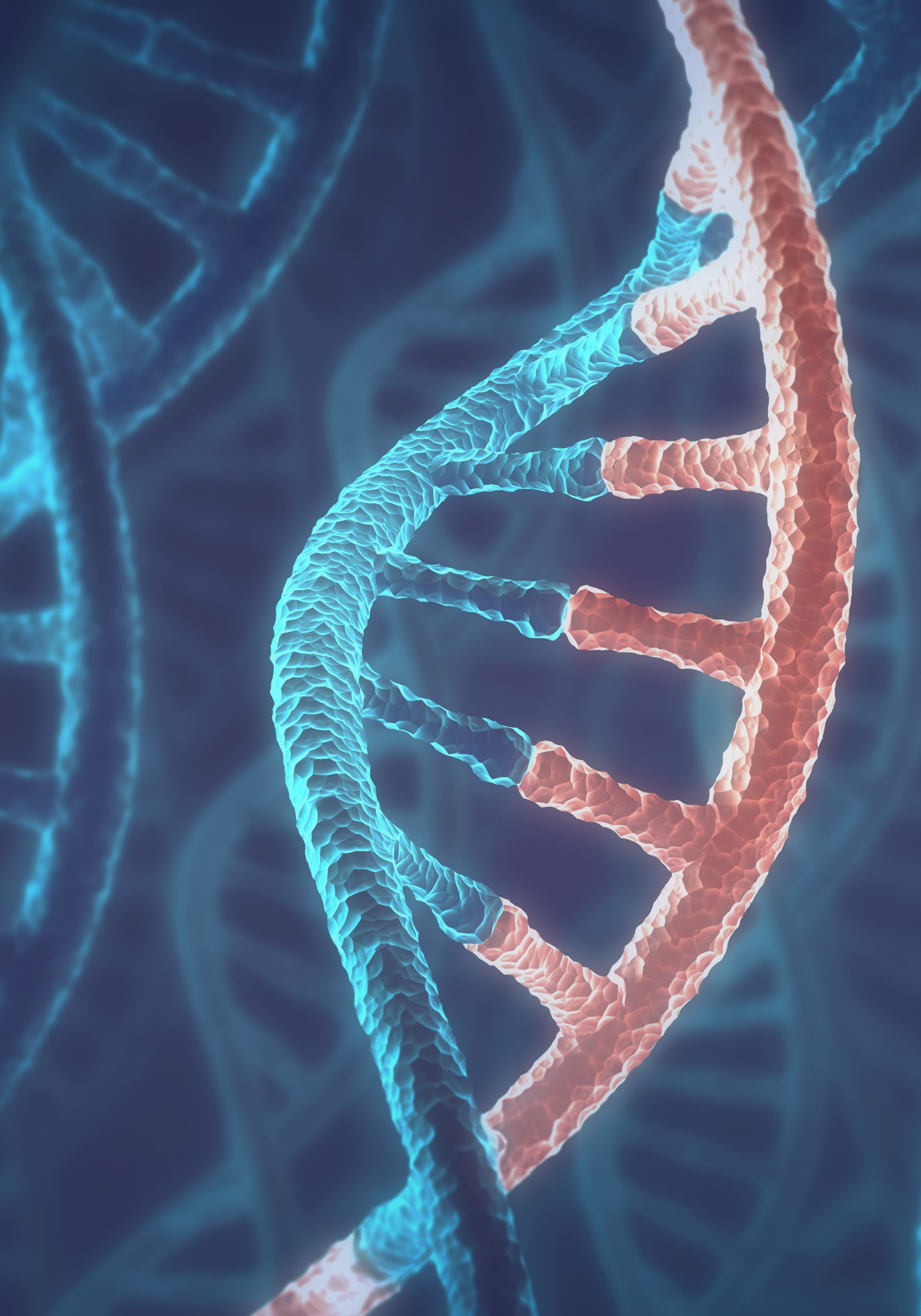


Sticky end DNA ligation

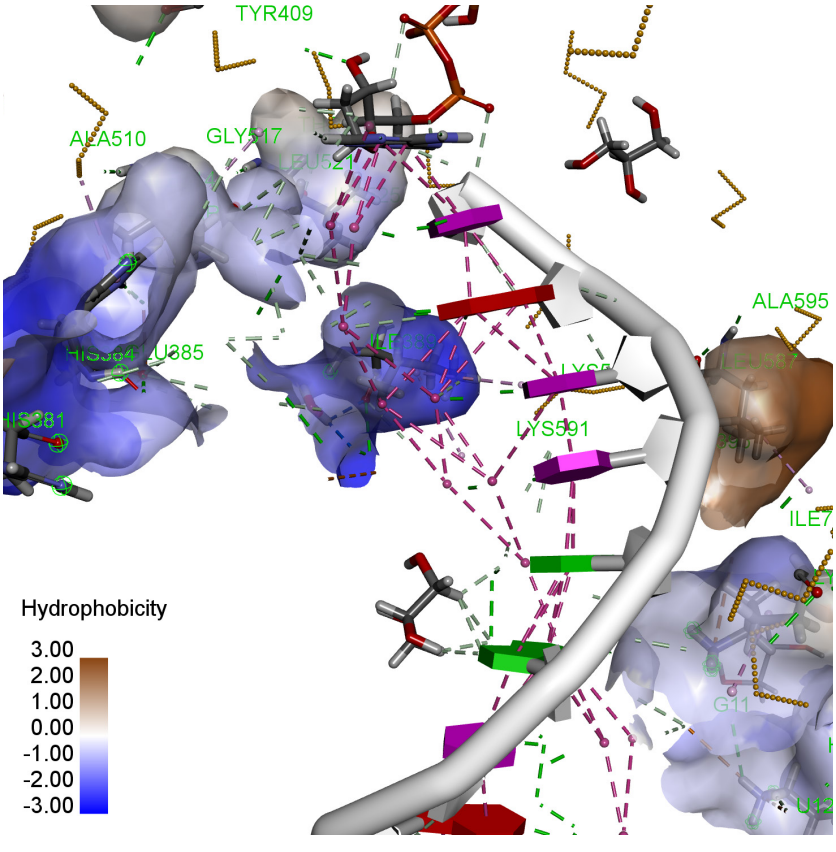
# RNAFix ™ Solution

RNAfix™ is an aqueous, non toxic, tissue and cells storage solution intended for the preservation of RNA for later isolation. It is a preservation solution that allows recovery of intact RNA from tissues and cell culture. Samples in RNAfix™ solution can be stored indefinitely at -20 °C with no RNA degradation. RNAfix™ solution can be used for the storage of tissues, cells, bacteria and yeasts. RNAfix™ compatible with most RNA isolation methods.



# DNA & RNA
## Extraction Kits




Total RNA extraction Kit
Plant RNA extraction Kit
Blood RNA extraction Kit
Blood genomic DNA extraction Kit
Tissue DNA extraction Kit
Bacteria DNA extraction Kit
Plant DNA extraction Kit

# Total RNA extraction Kit

This kit uses reversible binding properties of a silica-based column. The sample is lysed first under highly denaturing phenolic buffer condition to protect tissue RNA from degrading. Tissue RNA Kit allows simultaneous processing of multiple tissue samples in less than 30 min. The procedure completely removes contaminants and enzyme inhibitors making RNA isolation fast, convenient, and reliable.


**Applications:**

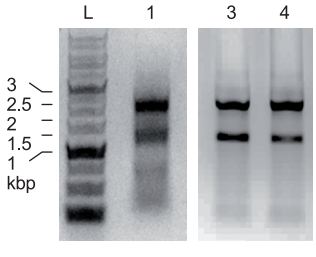
**RNA extraction from animal tissues, cell culture and blood.**

**L: 1 kbp DNA Ladder**

**1: 10 µl RNA from Blood**

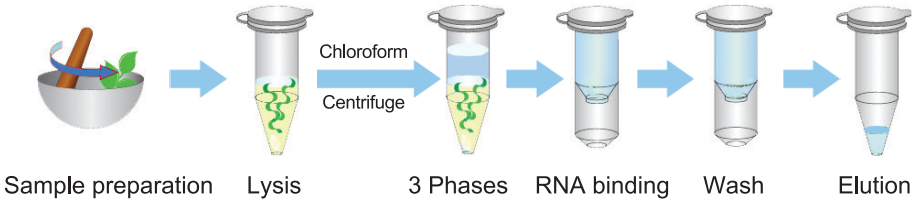
**2: 5 µl RNA from J774 cells**

**3: 5 µl RNA from Hela cells**




# Plant RNA extraction Kit

Plant RNA Kit provides a convenient spin column-based method for the isolation of total RNA from a variety of plant samples. Samples should be homogenized in lysis buffer before starting the process. All the contaminants including polysaccharides and phenolic compounds are effectively removed.
Purified RNA can be used for most downstream applications such as RT-PCR, Northern blot analysis, differential display, and poly A+ RNA selection.



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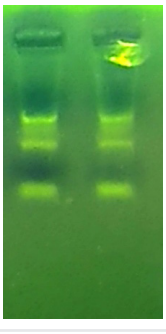
# Blood RNA extraction Kit

Blood RNA Kit is designed for a silica spin-based isolation of total intracellular RNA from up to 200 µL of fresh, or frozen whole blood treated with any common anticoagulant such as heparin, EDTA or acid-citrate-dextrose. The procedure completely removes contaminants and enzyme inhibitors making total RNA isolation fast, convenient and reliable.
Cell lysis, RNase inactivation and DNA removal are carried out by phenol-base solution. After separation of RNA containing section and addition of RNA enhancer, the lysate will be applied to a spin column. Cellular debris and other contaminants such as hemoglobin are effectively washed away and high-quality RNA is finally eluted in DEPC-treated water.




**Applications:**
**Low sample size 200 µl**
**Fast and easy protocol**
**DNA depletion**
**Suitable yield 1-4 µg**

# Blood genomic DNA extraction Kit

A silica-membrane-based DNA purification for up to 200 µl fresh or frozen human whole blood. Expected yields of 4–10µg depending on the white blood cell count of the sample. High-quality DNA without any organic extraction or alcohol precipitation.


**Applications:**
**Genomic DNA extraction from human and animal blood, serum and plasma.**

**Easy protocol.**
**No precipitation step.**
**Preparation time for a single sample is less than 30 minutes.**
**Purified DNA is fully digestible with all restriction enzymes tested, and is completely compatible with downstream applications.**

# Tissue DNA extraction Kit

This kit employs proteinase K and chaotropic salt to lyse cells and degrade protein, allowing DNA to be easily bound by the glass fiber matrix of the genomic DNA spin column.


**Applications:**
**Genomic DNA extraction from liver, kidney, brain, and many animal tissues.**

**No precipitation step.**
**Preparation time for a single sample is less than 45 minutes.**
**Purified DNA is fully digestible with all restriction enzymes tested and is completely compatible with downstream applications.**

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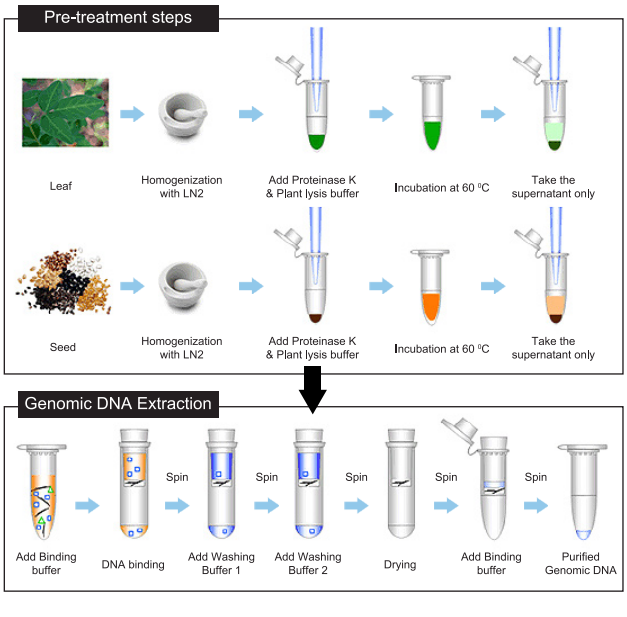
# Bacteria DNA extraction Kit

This kit is designed for the rapid spin column preparation of g
nomic DNA from 2 x 109 viable bacterial cells (between 0.5 a
1.0 mL of culture).
This kit can be used for both Gram-negative and Gram-positi
bacteria including Escherichia coli and Bacillus cereus. Purifi
genomic DNA is of an excellent quality and yield.


**Advantages:**
**Rapid and convenient spin column protocol.**
**High yield, high quality DNA for sensitive downstream app**
**cations including sequencing, PCR, qPCR and more.**

# Plant DNA extraction Kit

Plant DNA Kit provides a simple, efficient column-based method for the isolation of genomic DNA from a wide variety of plant materials, without the need for hazardous reagents such as phenol.




**Advantages:**
**Fast and Convenient: Kit includes all necessary components High-performance – extraction of high-quality DNA, ideal for use in all downstream applications.**
**Efficient: Optimized lysis conditions and column matrix for improved recovery of genomic DNA from a wide range of plant samples.**

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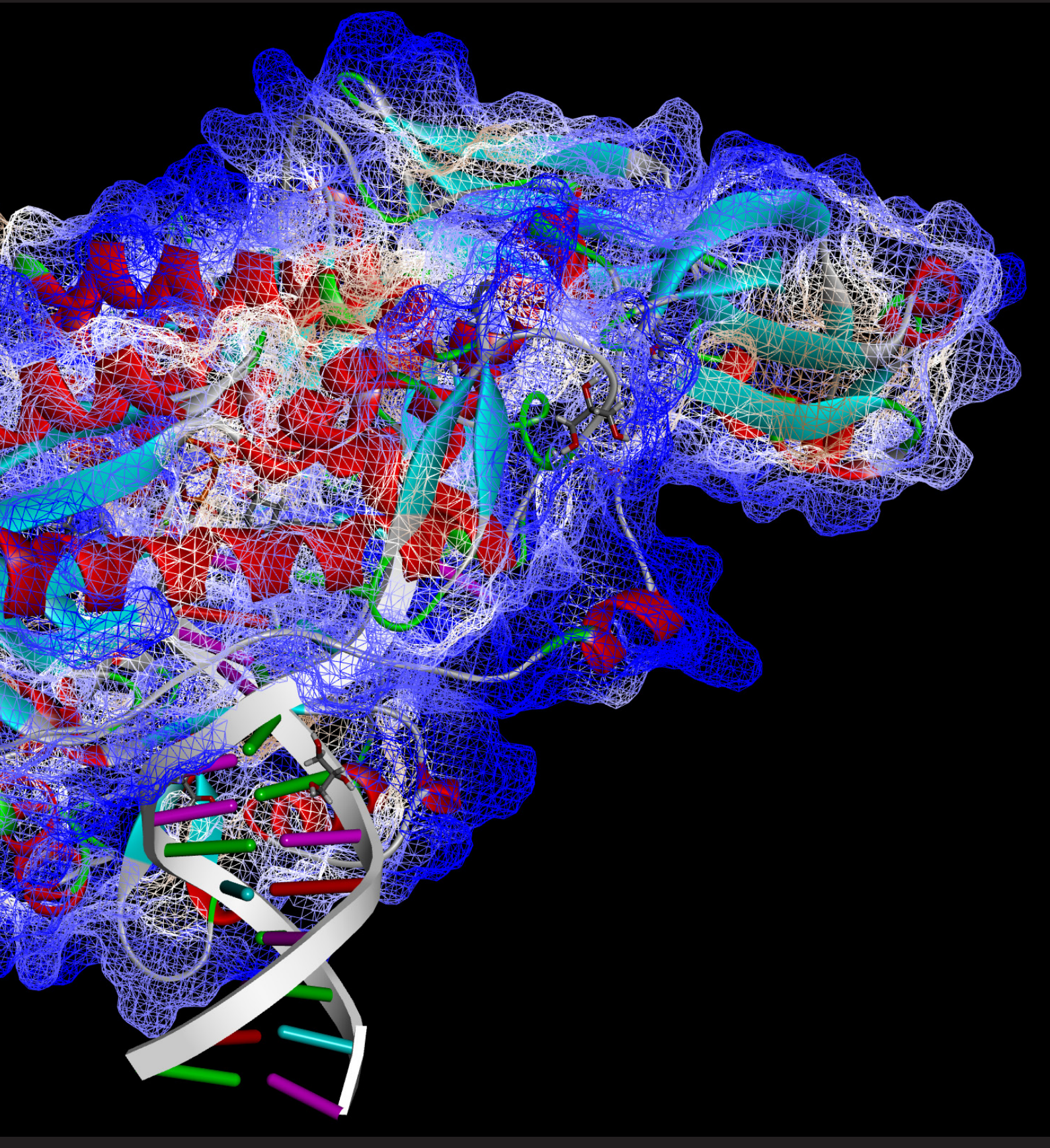
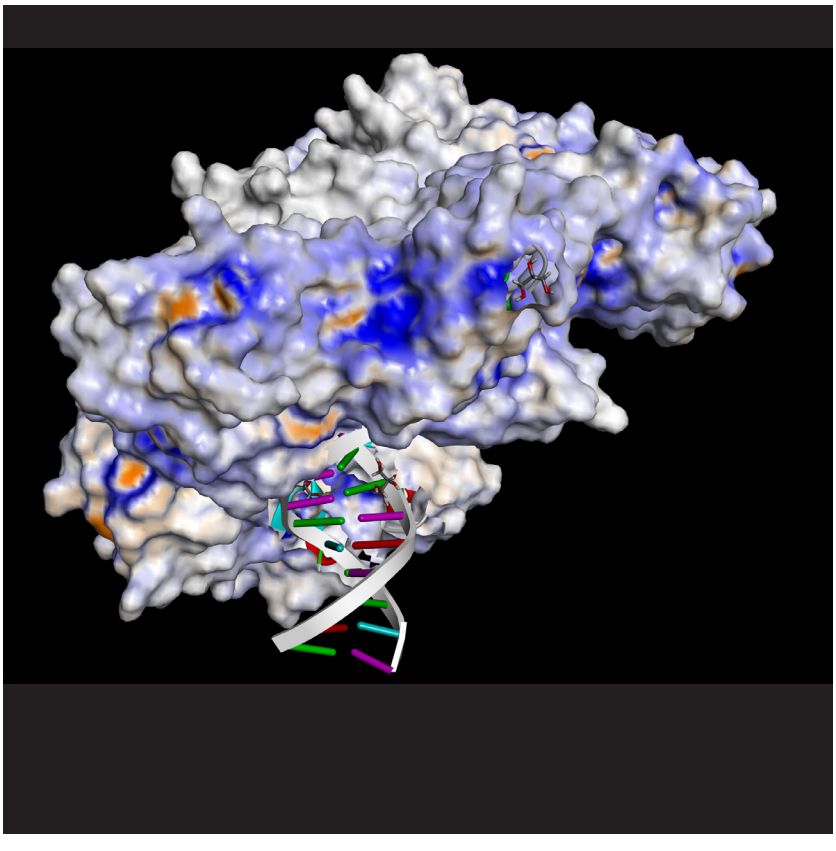


# Protein
## Protein Assay

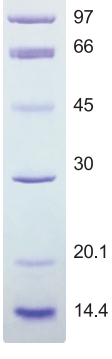


Low Molecular Weight  Protein Marker
Chemiluminescence Detection kit
BCA Protein Quantification Kit
Ni-IDA Column Kit

# Low Molecular Weight  Protein Marker

The Low Molecular Weight Protein Marker for SDS electrophoresis is a liquid mixture of six purified proteins ranging from 14,400 to 97,000 Dalton  when used in denaturing polyacrylamide.

**Mw (kDa) 12.5%**

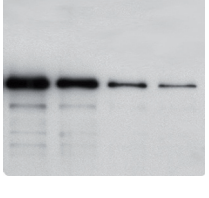




# Chemiluminescence Detection kit

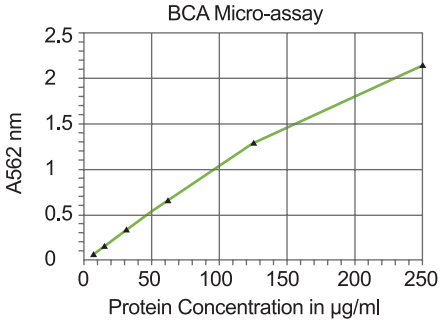
This kit is recommended for horseradish peroxidase (HRP)-based Western Blotting procedures. Provided as a two-component system, Solution A and Solution B.
The chemiluminescent light emitting can be quantitatively detected via regular autoradiograph film, CCD camera, or chemiluminescence reading device.

**Suitable for western blotting and dot blot**
**More sensitive than DAB and Alpha-naphtol**



# BCA (Bicinchoninic acid) Protein Quantification Kit

BCA kit utilizes a copper(Cu2+) salt which can be reduced to the cuprous state by protein(s). The BCA Protein Assay is suitable for measuring of protein concentration in the range of 5-1000 µg/ml.

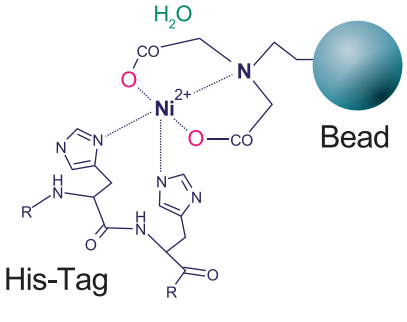




**Less protein-to-protein variation.**
**Less affected by ionic and nonionic detergents.**
**Detection down to 5µg/ml with the enhanced protocol.**

# Ni-IDA Column for purification of His-tag proteins Kit

Ni-IDA beads enable fast and convenient purification of recombinant polyhistidine-tagged proteins by immobilized metal ion affinity chromatography (IMAC). This gel is rechargeable for more than ten times without reduction in the yield.





5 ml Ni-IDA column

**Purification in non-denaturing condition.**
**Purification in denaturing condition.**
**High yield and specific.**
**Very economic.**

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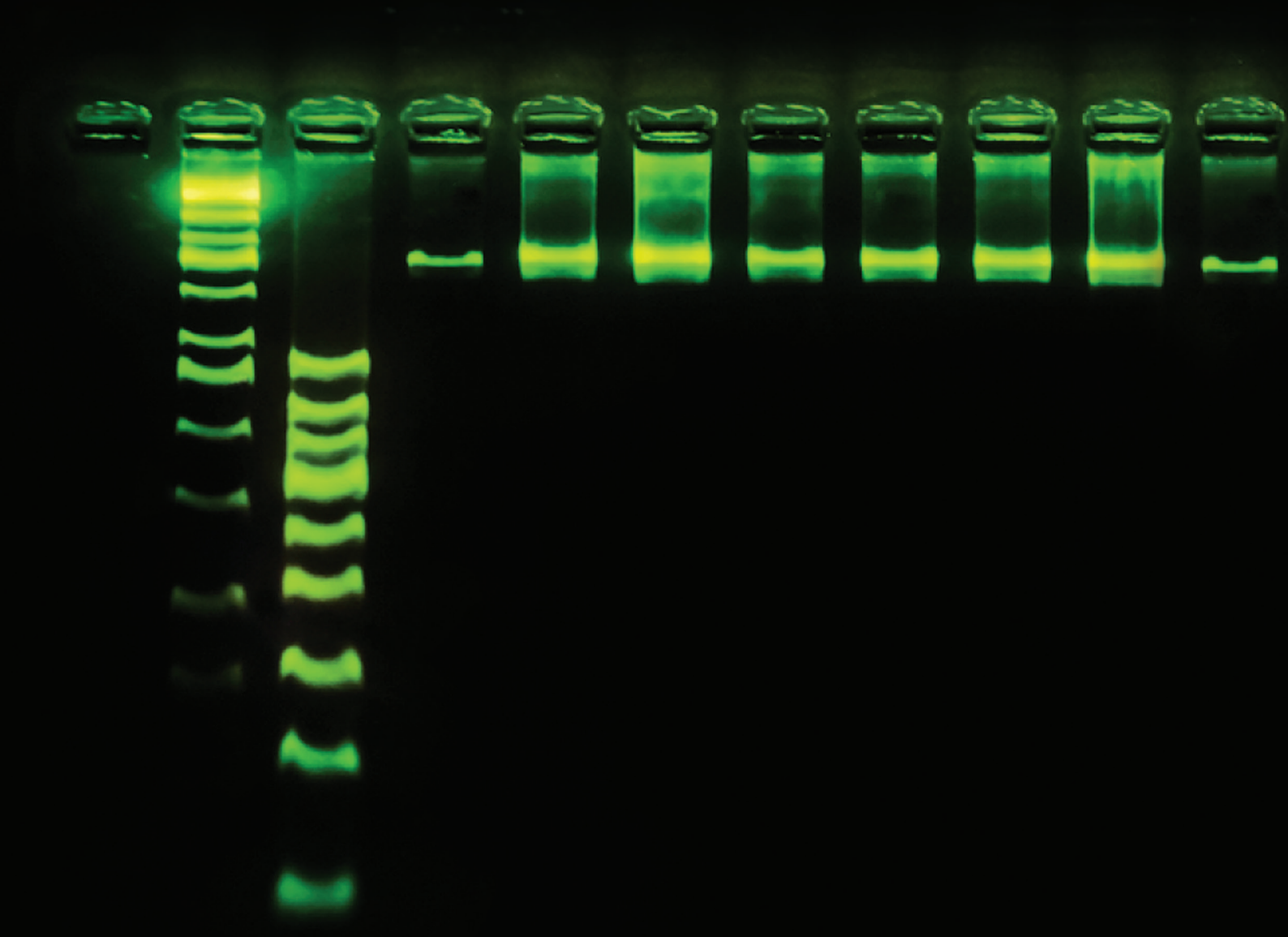
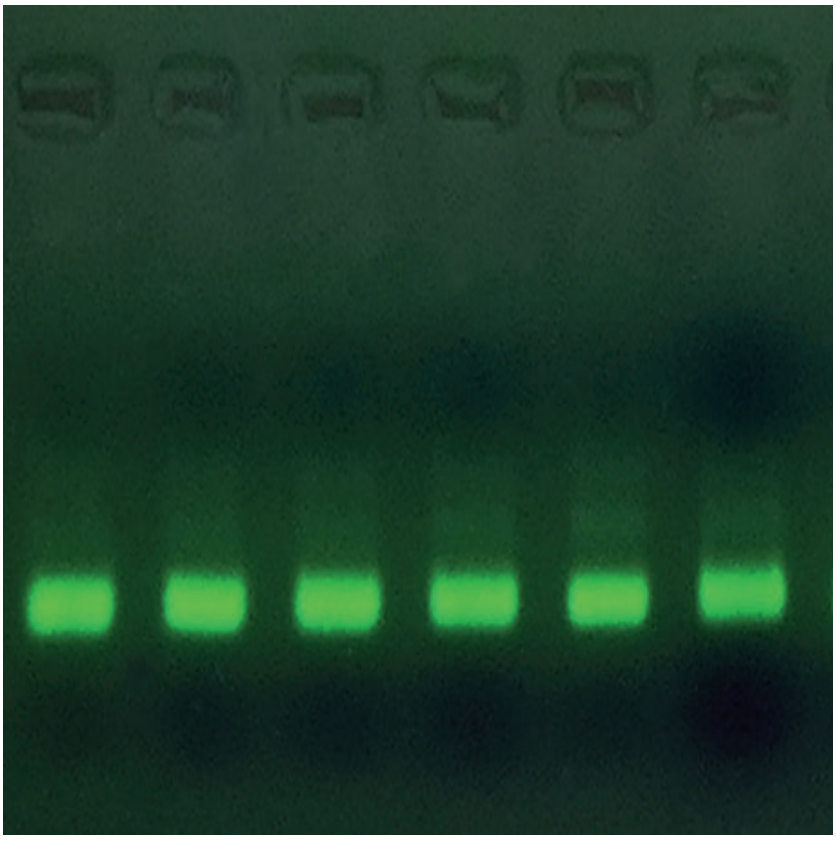


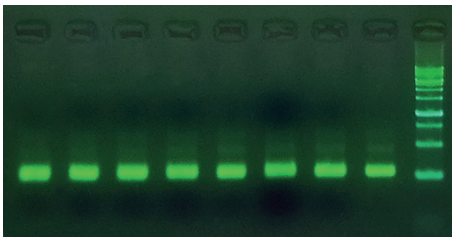
# Electrophoresis Products



DNA Green Viewer ™
Loading DuoColor ™
Loading TriColor ™
TBE buffer
TAE buffer
100bp Ladder

# DNA Green Viewer ™

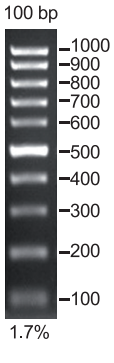
The Low Molecular Weight Protein Marker for SDS electrophoresis is a liquid mixture of six purified proteins ranging from 14,400 to 97,000 Dalton  when used in denaturing polyacrylamide.




**DNA Green Viewer™ is as sensitive as EB**
**Most economic safe nucleic acid stain**

# 100bp Ladder

The 100 bp DNA Marker consists of 11 DNA fragments ranging in size from reference on agarose gels, the 500 bp and 1000 bp are two to three times brighter than the other bands.




## 6X loading DuoColor ™

The dye is used for loading DNA samples into gel electrophoresis wells and tracking migration during electrophoresis. See the below detail for an estimation of the migration distance of the tracking dyes contained in DuoColor 6x loading dye.


**Orange G dye runs faster than Bromophenol blue or xylene cyanol FF dyes in standard agarose gels.**
**Orange G dye migrates with DNA between 10 and 20 nucleotides long.**

## 6X loading TriColor ™

The dye is used for loading DNA samples into gel electrophoresis wells and tracking migration during electrophoresis. See the below table for an estimation of the migration distance of the tracking dyes contained in TriColor 6x Loading Dye.


**Orange G Dye runs faster than Bromophenol blue or xylene cyanol FF dyes in standard agarose gels.**
**Orange G dye migrates with DNA between 10 and 20 nucleotides long.**

# 10X TBE buffer

Highly pure reagents have been also provided for preparation of electrophoresis buffers. These buffers are used to prepare agarose gels and as an electrophoresis running buffer for the separation of double-stranded DNA in agarose and polyacrylamide gels.


# 50X TAE buffer

Use 50x Tris/Acetic Acid/EDTA (TAE) for electrophoresis of nucleic acids.
Compatible with horizontal agarose and vertical polyacrylamide gels
Use with nondenatured and denatured DNA and nondenatured RNA
Unlike TBE, it does not interfere with the activity of some downstream enzymes such as ligases
Made with 18 Ω water

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