MagGenome®

Innovate with Magnetism

www.maggenome.com

Introduction

MagGenome® started operations from the facility at Perungudi, Chennai in 2018. As a startup, MagGenome is primarily focused on the development of magnetic nanoparticles based products. The company has developed DNA/RNA extraction kits under the brand name "XpressDNA/RNA", clean up and size selection as "XpressPure", collection and storage devices as "MagStable". The XpressDNA/RNA protocol is designed to extract high molecular weight DNA/RNA which is free of protein and PCR inhibitors using our patented magnetic nanoparticle technology. The kit also requires the use of a magnetic separator "MagNaStand" which is made of rare earth magnets that provide effective magnetic strength to process different volumes used in the kit protocol. MagGenome will also focus on other applications of magnetic nanoparticles in near future for providing solutions in the areas of molecular diagnostics, therapeutics and research applications.

XpressRNA Viral Kit (ICMR Approved)

Xpress RNA **Viral Kit**

MagGenome's XpressRNA Viral Kit designed for rapid and reliable isolation of total viral nucleic acids from oral and nasopharyngeal swabs stored in viral transport media or other buffers. This kit is highly efficient in viral nucleic acid isolation and the extracted RNA is suitable for direct use in most downstream applications such as one - step RT-qPCR, RT-PCR, PCR and nucleic acid amplification. The kit can be adaptable to majority of the liquid handling workstations in the market.

"Currently the kit is used extensively for SARS Covid19 virus detection"

HIGHLIGHTS

- 100% Sensitivity and Specificity
- Time and Cost effective
- More than 90% recovery
- Amenable for automation
- Ready to use Pre-filled plates
- Customization can be done as per requirements

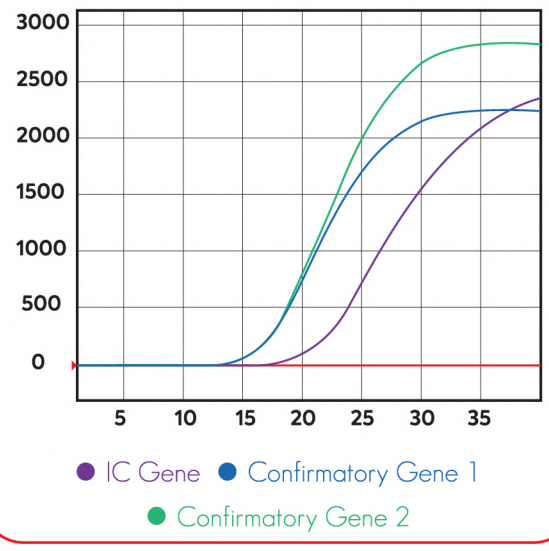
STORAGE

Carrier RNA : To be stored at -20°C on arrival

MagNa Mix : To be stored at 4°C. on arrival.

All other components stored at 15-25°C.

RT PCR Result of Human Viral RNA extracted by XpressRNA Viral



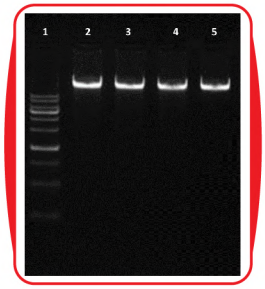
DNA Extraction Kit

XpressDNA Blood Kit

The XpressDNA Blood kit provides a simple and quick system to isolate high quality genomic DNA from blood, whether fresh or aged. The XpressDNA technology provides an easy and flexible magnetic nanoparticles based method that allows the extraction of high quantities of pure DNA as evident from the 260/280 ratio and the agarose gel electrophoresis. The purity ratio of DNA ranges from 1.75 - 1.8 (260/280) and 1.8 - 2.0 (260/230). DNA extracted using XpressDNA Blood kit is amenable for all downstream applications such as PCR, Real time PCR, Restriction digestion, Sanger sequencing and NGS. XpressDNA Blood kit guarantees extraction of high quality genomic DNA in better yields compared to other commercially available kits from a starting blood volume of 0.2 - 0.4ml.

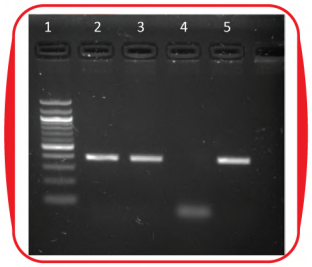
The kit can be used for extraction of DNA from:

- Fresh, frozen or aged blood
- Blood stored in different storage vials (EDTA, citrate, heparin, fluoride)
- PBMCs
- Umbilical cord blood
- Blood clot



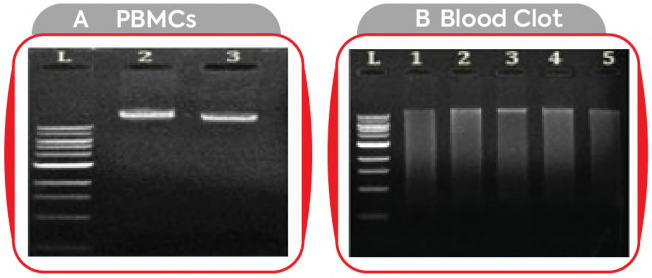
High yields of pure DNA from blood.

Genomic DNA was extracted from 400 µl of fresh human blood using XpressDNA Blood kit. *Lane 1:* 1kb ladder, *Lanes 2-5:* DNA extracted using XpressDNA Blood kit.



PCR amplification of Jak2 from genomic DNA extracted using XpressDNA Blood kit.

Lane 1 : 100bp ladder, *Lane 2 :* Positive control, *Lane 3&5 :* PCR product from DNA extracted using XpressDNA Blood kit, *Lane 4 :* Negative Template control.

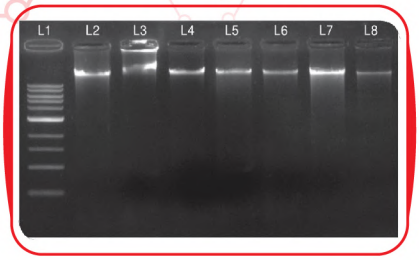


Genomic DNA extracted from different sample sources using XpressDNA Blood kit.

(A) Peripheral blood mononuclear cells (PBMCs) were purified from whole blood following the Ficoll gradient method and genomic DNA was extracted from PBMCs. Approximately $1x10^6$ cells were taken for DNA extraction. *L:* 1kB ladder, *2,3:* genomic DNA from two different PBMC samples. *(B)* Genomic DNA extracted from 100mg blood clot. *L:* 1kB ladder, *1-5:* genomic DNA from five blood clots.

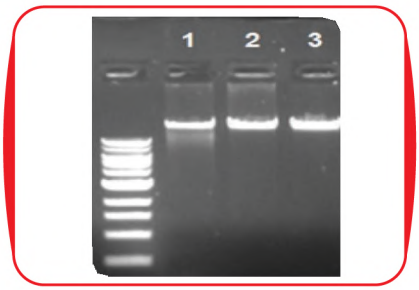
XpressDNA Tissue/ Cell Line Kit

XpressDNA Tissue/Cell line kit is suitable for extraction of high quality genomic DNA from fresh, frozen and ethanol preserved mammalian tissues, fish tissues, and cell lines.



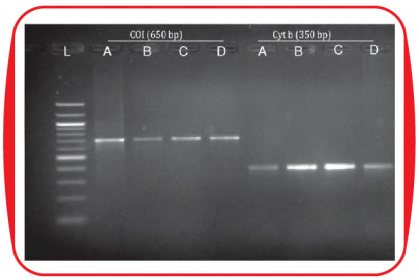
Consistent DNA yields compared to other extraction methods.

Genomic DNA was extracted from different animal tissues such as heart, brain, kidney, liver, spleen, muscle, rat tail and fish fin *(Lane L2 -L8)* using XpressDNA Tissue / Cell Line kit and evaluated on 0.8% agarose gel. *Lane L1:*1kb DNA ladder.



Genomic DNA extraction from cell lines.

Genomic DNA was extracted from CHO cell lines using XpressDNA Tissue/Cell line kit. *Lanes 1- 3* represent DNA isolated from $0.5x10^6$ cells, $1x10^6$ cells and 1.25×10^6 cells respectively



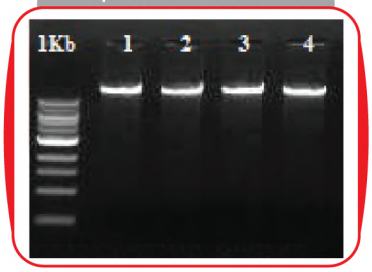
High purity DNA for downstream applications.

DNA extracted using XpressDNA Tissue /Cell Line kit was used in PCR amplification reactions. DNA from four different fresh tissues were amplified using two different primer sets COI and Cyt b, respectively.

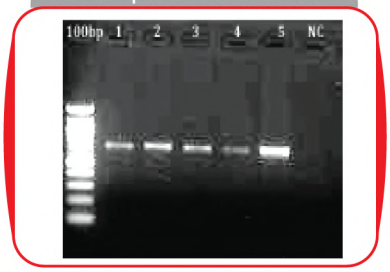
XpressDNA Saliva Kit

XpressDNA Saliva kit guarantees good yield of high quality genomic DNA from a starting volume of 0.5 ml. The protocol is well optimized for DNA extraction from 0.5-1ml saliva.

A. XpressDNA™ Saliva Kit



B. PCR amplification of Saliva DNA



Genomic DNA extraction using XpressDNA Saliva kit and PCR amplification of gDNA using LCO/ HCO primers.

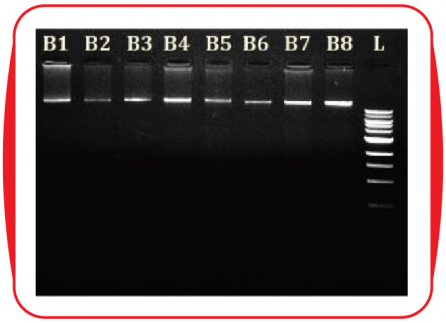
A: Genomic DNA extracted from 0.5 ml of human saliva. 1-4 represents genomic DNA extracted from saliva samples from four healthy individuals. *B:* PCR amplification of the DNA extracted using XpressDNA Saliva kit using LC01490/HCO2198 primers. The amplicon size is 650 bp.

XpressDNA Bacteria Kit

XpressDNA Bacteria kit provides a simple and efficient magnetic nanoparticle based platform for genomic DNA extraction from both gram positive and gram negative bacteria. Bacterial diversity is the major challenge in genomic DNA extraction and hence more than hundred different bacterial strains were used for the XpressDNA Bacteria kit validation purpose.

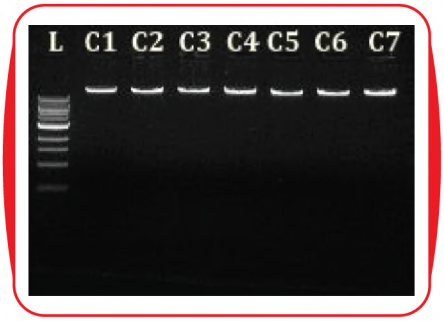
XpressDNA Bacteria meets the following criteria

- High quantity and high quality genomic DNA
- Reproducibility and robustness
- Non toxic and easy storage of kit reagents
- The kit is suitable for both gram positive and negative baterial stains



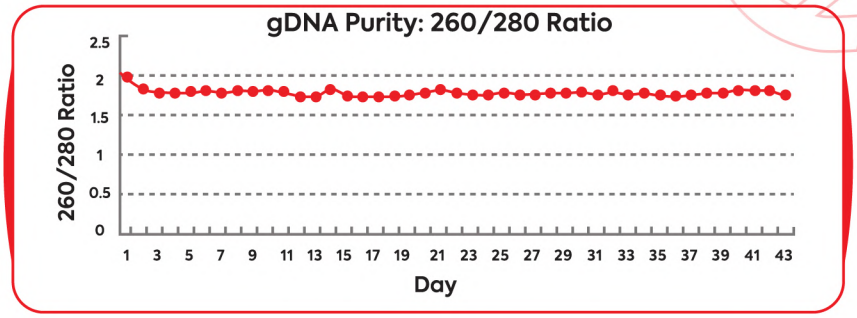
Agarose gel electrophoresis of genomic DNA extracted from gram positive bacteria using XpressDNA Bacteria kit.

B1: Bacillus megaterium
B2: Enterococcus faecium
B3: Staphylococcus saprophyticus
B4: Lactobacillus fermentum
B5: Pediococcus acidilactici
B6: Bacillus subtilis
B7: Lysinibacillus xylanilyticus
B8: Staphylococcus hominis
L: 1kb Ladder



Agarose gel electrophoresis of genomic DNA extracted from gram negative bacteria using XpressDNA Bacteria kit

L: 1kb ladder
C1: Acinetobacter pittii
C2: Klebsiella pneumoniae
C3: Enterobacter aerogenes
C4: Pseudomonas aeruginosa
C5: Enterobacter hormaechei
C6: Rhizobium cauense
C7: Betaproteobacterium



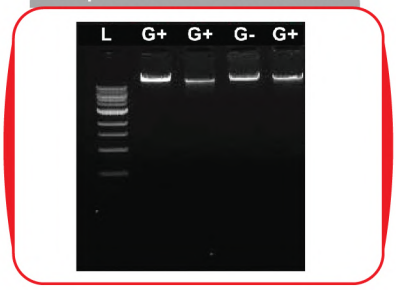
Quality of genomic DNA extracted using XpressDNA Bacteria kit.

Data shown above were collected from different experiments of the same bacterial strain (Lysinibacillus fusiformis) showing consistency in the purity of genomic DNA extracted.

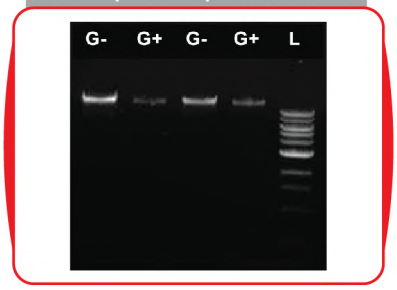
PCR amplification of genomic DNA using 16s rRNA primer.

Genomic DNA extracted using XpressDNA Bacteria kit was used in PCR amplification. Amplicon size -1.5 kb, *L:1*kb Ladder *NC:* Negative control *B1:* Bacillus megaterium *B2:* Enterococcus faecium *B3:* Staphylococcus saprophyticus *C1:* Acinetobacter pittii

A. XpressDNA™ Bacteria Kit



B. Competitor spin column kit



Comparison of the performance between(A) XpressDNA Bacteria kit with (B) commercially available spin column based kit.

Genomic DNA was extracted from gram positive *(G+)* and gram negative *(G-)* bacteria. *L:* 1kb ladder.

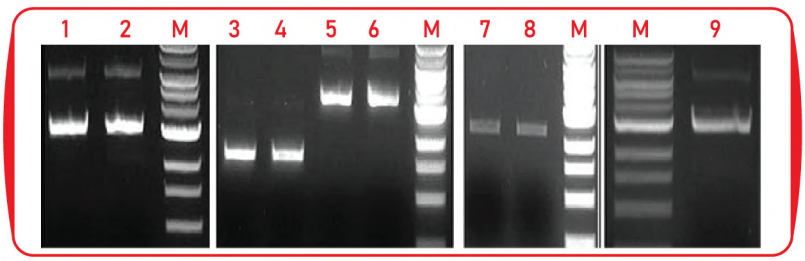
XpressDNA Plasmid Kit

XpressDNA Plasmid kit allows rapid and efficient purification of plasmids from fresh cultures of gram negative bacteria with an OD>1. The plasmid DNA is extracted using the XpressDNA magnetic nanoparticles-based technology. The process of plasmid purification using the XpressDNA Plasmid kit would be finished within 20-25 minutes. The work flow is depicted in below figure. The method allows the isolation of low, medium and high copy number plasmids with high purity and negligible genomic DNA contamination.

HIGHLIGHTS

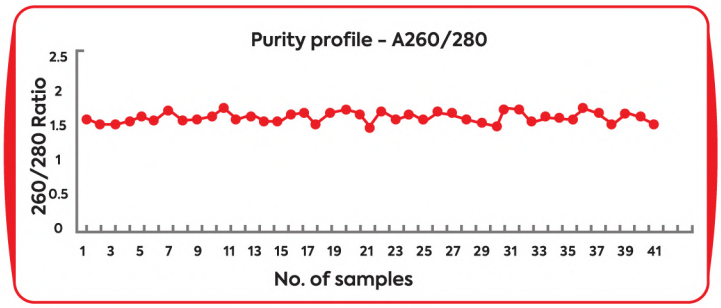
- Minimal number of buffer systems
- Multiple tube transfers not required
- Quick and user-friendly protocol
- Good recovery of high quality plasmid
- Process completion within 20-25 minutes

Workflow of plasmid purification by XpressDNA Plasmid Kit



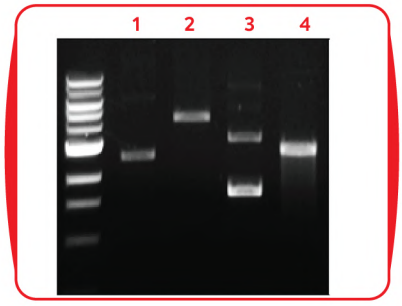
Representative AGE profiles of plasmids isolated using XpressDNA Plasmid kit.

Lanes 1-2: pST; Lanes 3-4: pUC 19; *Lanes 5-6:* pCR 2; *Lanes 7-8:* pBR322; *Lane 9:* pUVR. M-1 kb ladder



Quality of isolated plasmid in terms of 260/280 ratio using nanodrop.

Extracted plasmids are suitable for use in downstream applications including restriction enzyme digestion, PCR, cloning, transformation, sequencing and transfection.



Restriction enzyme Digestion

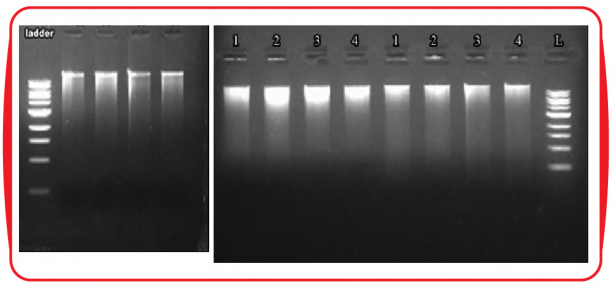
pBR322 and pUC19 extracted using XpressDNA Plasmid kit were subjected to restriction digestion using EcoR1. *Lane1:* uncut pBR322; *Lane 2:* cut pBR322; *Lane 3:* uncut pUC19, *Lane 4:* cut pUC19.

XpressDNA Soil Kit

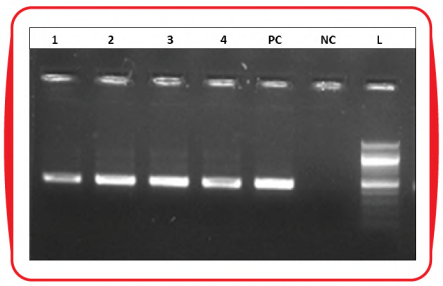
The XpressDNA soil kit enables rapid purification of high quality microbial DNA from a wide variety of soil samples including extreme environmental samples like deep sea soil. We have developed a patented magnetic nanoparticles-based technology for DNA/RNA extraction that is quick, robust and ready for downstream PCR, sequencing, and other applications. The new method effectively eliminates humic acid leaving high quality genomic DNA for downstream applications. The highly efficient inhibitor removal technology makes this the prime kit for meta-genomics research projects.

HIGHLIGHTS

- Efficient lysis of all microorganisms (including gram positive bacteria and fungi) by a combination of chemical and mechanical disruption without bead beating step.
- Higher yield and purity.
- Efficient removal of PCR inhibitors by precipitation.
- Recovery of high-purity, inhibitor free DNA compatible with common downstream applications such as qPCR and next-generation sequencing.
- More OTUs and higher Alpha diversity in metagenomic analysis.



Agarose Gel Profile of genomic DNA from different soil samples



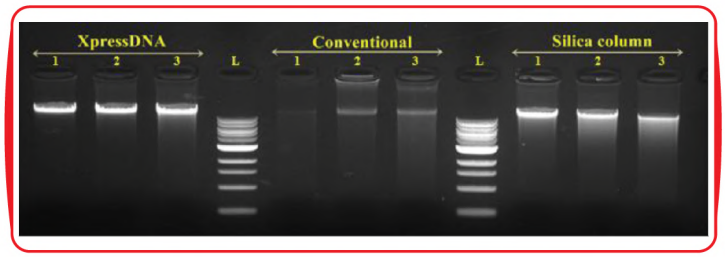
Downstream compatibility: PCR amplification of genomic DNA extracted using XpressDNA Soil Kit from different Soil Samples using V3-V4 primer (490bp)

XpressDNA Plant Kit

XpressDNA Plant kit ensures the quick and easy extraction of pure, contaminant free DNA from various plant species and tissue types like leaf, seeds, stem, roots and other plant parts. DNA extraction from plant is highly challenging due the sample heterogeneity and presence of cellular components like polysaccharides, secondary metabolites like polyphenols, terpenoids, alkaloids etc.

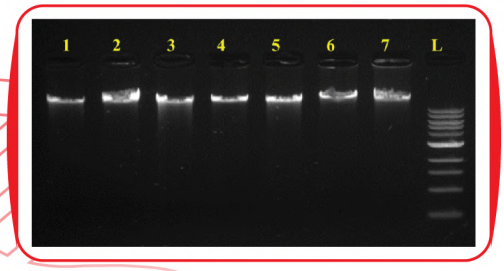
HIGHLIGHTS

- Contaminant free pure DNA.
- High quality DNA: A 260 /A 280 1.65 - 1.90
- No phase separation in the process.
- Nanoparticles Enables extraction of genomic DNA of size >50kb, suitable for NGS platforms like PacBio and Nanopore.
- High yield ranging between 1µg - 23µg/ 100mg tissue.
- Universal kit for different plant parts like dry seeds, stem and roots.
- No frequent centrifugations needed.



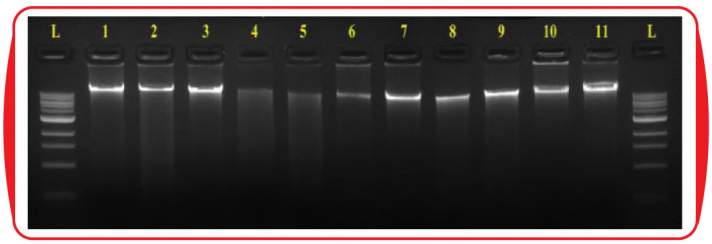
Comparison of genomic DNA extraction from leaf using three different methods

Including XpressDNA Plant Kit, Conventional phenol chloroform extraction and spin column based commercial kit:
1. Vigna sp.(Cowpea) *2.* Passiflora edulis(Passion fruit) *3.* Hevea brasiliensis(Rubber) *L.* 1kb ladder



AGE profile of genomic DNA from leaves using XpressDNA Plant Kit

1. Azadirachta indica(Neem) *2.* Brassica nigra(Mustard)
3. Magnifera indica(Mango) *4.* Heliconia sp. *5.* Psidium guajava (Guava)
6. Nerium sp. *7.* Artocarpus heterophyllus(Jack fruit) *L.* 1kb ladder



AGE profile of genomic DNA from dry seeds

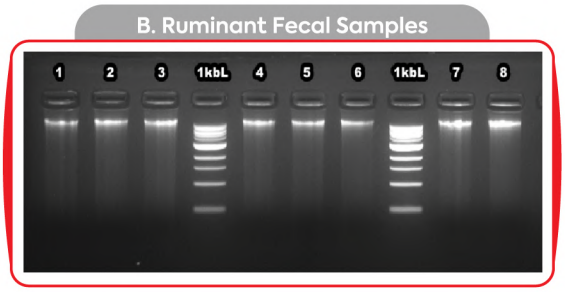
L. 1kb ladder *1.* Vigna sp.(Red cowpea) *2.* Triticum aestivum *3.* Cicer arientinum(Chickpea) 4. Sesamum indicum(Sesame) *5.* Coriandrum sativum(Coriander) *6.* Trigonella foenum - graecum(Fenugreek) *7.* Helianthus annus(Sunflower) *8.* Oryza sativa(Rice) *9.*Pennisetum sp.(Millet) *10.* Brassica nigra(Mustard) *11.* Vigna radiata(Mung bean)

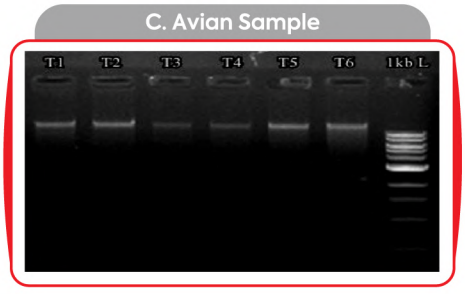
XpressDNA Stool Kit

The XpressDNA Stool kit uses our patented magnetic nanoparticles-based technology for DNA extraction that is quick and robust and ready for downstream PCR, sequencing, or other applications. Inhibitor removal step effectively removes complex polysacharides, bile salts and other contaminants in the stool sample.The new method effectively eliminates PCR inhibitors leaving high quality genomic DNA for downstream applications.The highly efficient inhibitor removal technology makes this the prime kit for metagenomics research projects.

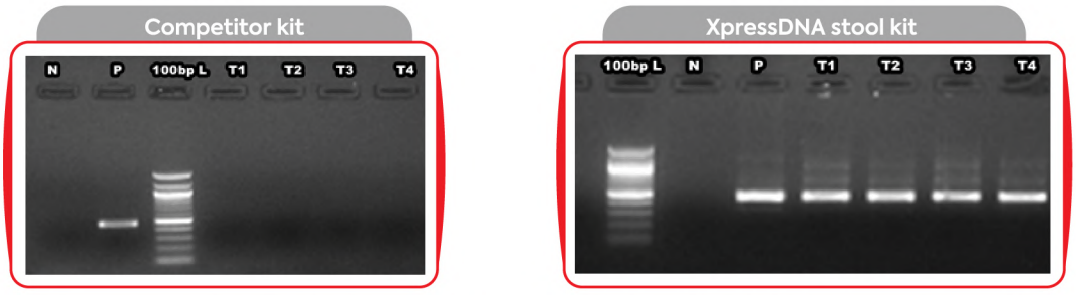
HIGHLIGHTS

- Efficient lysis of all microorganisms (including gram positive bacteria and fungi) by a combination of chemical and mechanical disruption without bead beating step.
- High quality genomic DNA.
- High yield
- Efficient removal of PCR inhibitors by precipitation.
- Recovery of high-purity, inhibitor free DNA compatible with common downstream applications such as qPCR and next-generation sequencing.





Agarose Gel Profile of genomic DNA from different sample



PCR amplification of genomic DNA extracted using XpressDNA Stool Kit from different samples using V3-V4 primer (490bp)

XpressDNA Pathogen Kit (Blood/Urine)

XpressDNA Pathogen DNA Extraction Kit allows rapid and reliable high-quality DNA isolation from blood or urine pathogens. The patented magnetic nanoparticle technology can isolate and purify DNA from a wide variety of fungi, gram positive and gram-negative bacterial species from blood and urine samples. XpressDNA Pathogen kit is validated for extraction of DNA for downstream processing including PCR, RT PCR, restriction digestion, genotyping and NGS analysis including de novo genome sequencing.

HIGHLIGHTS

- High Yield and Purity above 1.7
- Reproducible isolation of high molecular weight gDNA 500bp-200Kbp
- Complete removal of Contaminants and Inhibitors.
- Buffers and reagents are contamination-free.
- Easy and convenient protocol.
- Ultrapure gDNA ready for all downstream applications.

Cleanup and Size Selection

XpressPURE BEADS PCR Cleanup Kit

The XpressPure Beads is designed to recover or concentrate DNA fragments from PCR or other enzymatic reactions. Specific DNA fragment is bound to the surface of the magnetic nanoparticles and released using a buffer system. The XpressPure Beads PCR Cleanup- kit can be easily adapted to automated magnetic beads separation instruments and workstations. The purified DNA can be used in a variety of downstream applications.

HIGHLIGHTS

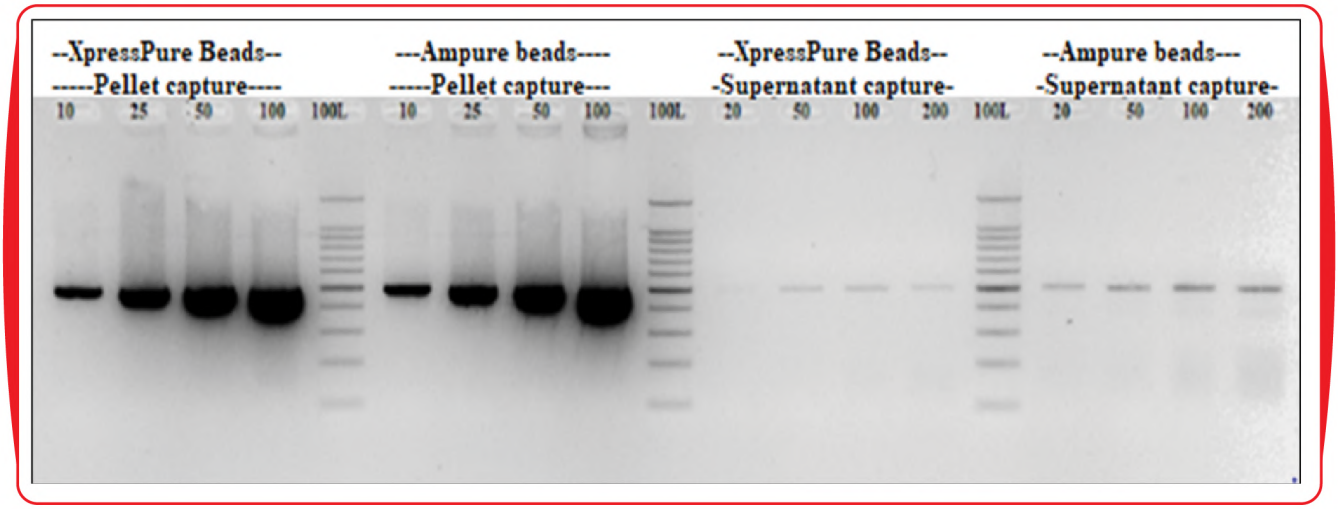
- High Yield: >90% recovery
- High Quality DNA: A260/A280 = 1.6- 2.0
- Magnetic Nanoparticle Size: ~ 10 nm
- Easily adapted to automated magnetic bead separation instruments and workstations.
- Sample: 10 µl to100 µl of PCR products Manual or automated DNA isolation.
- Operation time: 25 minutes (manual) Storage: room temperature (15-25ºC)
- Broad Fragment Size Range: 100 bp–1.5 kb

Comparison of XpressPure beads with PCR clean-up spin-column

Frag size (bp)	Methods tested	Conc(ng/µl)	Yield in 20(µl)	A260/280	A260/230
1500	XpressPure Beads	30.4	608	1.9	1.99
	NucleoSpin PCR cleanup kit	65.5	1310	1.83	0.49

Sample: PCR product of 1500bp; rxn volume: 25 µl; Elution volume: 20µl

Comparison of XpressPure beads with Ampure beads



	Sample vol (µl)	Conc(ng/µl)	A260/280		Sample vol (µl)	Conc(ng/µl)	A260/230
XpressPure Beads	10	28.3	1.89	Ampure	10	28	1.93
	25	76.3	1.88		25	72.1	1.88
	50	143	1.87		50	146.2	1.87
	100	280.4	1.88		100	282.2	1.89

PCR product clean-up from different sample volumes: capture with XpressPure Beads and Ampure beads

Sample Collection

MagStable DNA Saliva Collection Kit

MagStable offers an easy, convenient and safe method for the collection, stabilization, transportation and storage of saliva samples. Saliva Preservation Solution effectively stabilizes buccal cells and white blood cells found in saliva over 1 year at room temperature.

HIGHLIGHTS

- Painless, non-invasive collection.
- Simple and convenient sample collection .
- Saliva samples are stable for long-term room temperature storage.
- High quality Intact DNA can be obtained .
- Median A260/280 ration of 1.7
- Suitable for NGS, PCR applications.

Xpress Molecular Transport Medium

MagGenome Xpress Molecular Transport Medium was designed and optimized for molecular testing allowing pathogenic samples to be collected, transported, and processed safely and efficiently. Our XpressMTM is produced with molecular grade buffer that is DNase, RNase, and protease-free. The molecular transport medium inactivates infectious biological pathogens including viruses, and gram-positive/negative bacteria whilst preserving and stabilizing labile DNA and RNA for downstream molecular applications.

Storage, Shipping Condition & Shelf Life

- Samples are Stable for 4 days at room temperature and stable for 28 days at 2-8°C.
- It should be noted that samples will not be affected by multiple freeze-thaw cycles.
- Studies have shown longer stability for RNA at both ambient and high temperatures from time of collection to time of nucleic acid extraction compared with other transport media. Shelf life of the product is 12 months.

MagGenome Viral Transport Medium

MagGenome's Viral Transport Medium Kit is specially designed to collect and transport viruses in an active form to the laboratory for DNA or RNA isolation. It is to maintain the viability and the virulence of the viral sample. MagGenome VTM is made of Hanks Balanced Salt Solution and contains a protective protein, more than two antibiotics to control microbial and fungal contamination and buffers to control the pH. The medium also contains a cryoprotectant which helps in preserving the viruses if specimens are frozen for prolonged storage.

The sterile flocked nylon swab (nasal & oral swabs) has a short perpendicular ultra-flexible nylon shaft that is designed for better patient comfort. This nylon shaft is attached with soft nylon strands that results in efficient collection and release of particulate matter. It yields significantly more sample which helps in maximizing the sensitivity of serological and molecular detection assays. This swab has a molded breakpoint which allows the swab to be broken in to the tube. Sample collection tube is designed in such a way that can directly inserted into automated nucleic acid extraction systems.

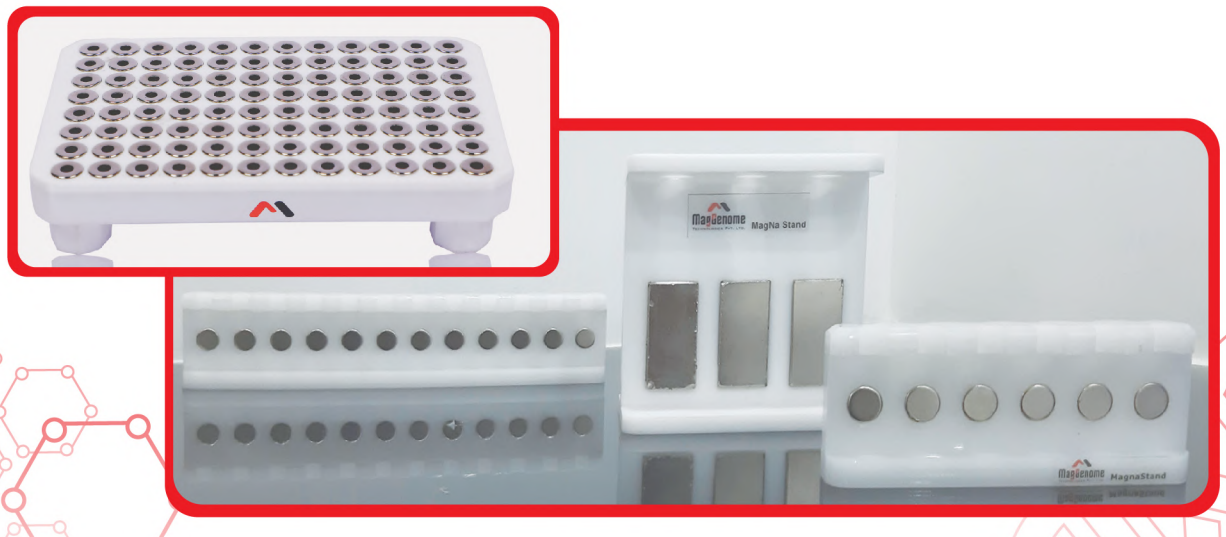
Transportation of the Samples

- Samples should be transported to the laboratory as soon as possible.
- Samples can be refrigerated at 2-8°C after collection or can be transported at 2-8°C on wet ice within 48 hours.
- If a long delay is expected in transit and processing, samples should be transported on dry ice and should be frozen at -70°C.

Magnetic Stand

MagnaStand

- The base of the MagnaStand contains six rare-earth magnets.
- Efficient to Pull the beads to the tube wall to allow removal of supernatant.
- Compact design and Easy to Handle.
- Can be used for NGS, Nanopore library cleanup, DNA/RNA Extraction and Antibody purification.
- Suitable for 16x1.5-2ml tubes, 24x1.5-2ml tubes, 3x15ml tubes, 3x50ml falcon tubes.



RNaseA solution

RNase A is an endoribonuclease that attacks at the 3' phosphate of a pyrimidine nucleotide. The sequence of pG-pG-pC-pA-pG will be cleaved to give pG-pG-pCp and A-pG. The highest activity is exhibited with single stranded RNA. RNase A is a single chain polypeptide containing 4 disulfide bridges. In contrast to RNase B, it is not a glycoprotein. RNase A can be inhibited by alkylation of His12 or His119, which are present in the active site of the enzyme. Activators of RNase.

CONCENTRATION : 10 mg/ml

APPLICATIONS

- It is an endoribonuclease that specifically cleaves single stranded RNA. It cleaves 3' end of unpaired C and U residues.
- RNase A specifically cleaves single-stranded RNA at 3' phosphate linkages of pyrimidine residues leaving pyrimidine 3' phosphates and oligonucleotides with terminal pyrimidine 3' phosphates.
- It is used in plasmid and genomic DNA protocols to obtain RNA-free DNA. It is also used for cleaving of unhybridized regions of RNA from DNA-RNA or RNA Hybrids.

STORAGE: The product as supplied is stable at 2-8°C. For long term storage at -20°C.

PROPERTIES : Molecular Weight : 13,700 Da

OPTIMUM pH : 5.0 - 6.0

Proteinase K (Recombinant)

Proteinase K is one of the most active endopeptidases ever known. This serine-like protease exhibits extremely effective degradation of both native and denatured proteins. Proteinase K is widely recommended for quick deactivation of endogenous RNases and DNases within the first steps of nucleic acids isolation. We produce recombined Proteinase K possessing endopeptidase activity identical to market available products from world leading competitors. The enzyme is fully compatible with any applications including DNA/RNA Extraction.

HIGHLIGHTS

- Highest quality due to unprecedented purity grade.
- Totally DNA / RNA free enzyme, dedicated to applications sensitive to exogenous nucleic acids.
- DNAse and RNAse free product.

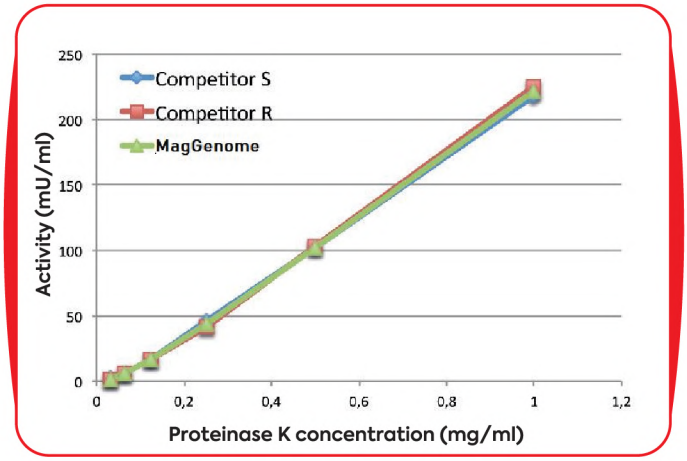
PRODUCT

Lyophilizate : Proteinase K 20 mg with dilution buffer

Specific activity: >30 U/mg

Storage: Store at + 4 °C

The recombined enzyme is cloned from fungus Engyodontium album and produced in Pichia pastoris.



Endopeptidase activity comparison of MagGenome Proteinase K versus commercially available Proteinases K.

Lysozyme

The lysozyme preparation is purified from chicken egg white, crystallized three times, dialyzed, and supplied as a lyophilized powder. Protein content by UV absorbance is ³90% with the remainder (~10%) being buffer salts such as sodium acetate and sodium chloride. This highly purified enzyme preparation has been used in mass spectrometry as a protein mass calibration standard and in structural studies of proteins.

Lysozyme activity: 40,000 units/mg protein

Storage/Stability: The product, as supplied, should be stored at -20°C. When stored at -20°C, the enzyme retains activity for at least 4 years. Solution (pH 4-5) remain active for several weeks if refrigerated.

Carrier RNA

Poly (A) carrier RNA is used for quantitative precipitation/purification of RNA and DNA. It improves recovery of short fragments (< 200 bp) or low amounts of nucleic acids.

Storage Conditions: store at -20 °C

Short term exposure (up to 1 week cumulative) to ambient temperature possible. Store in dark.

pH: 6.5-8.5

Molecular Weight: 100 - 500 kDa

Appearance: White or almost white powder.

Solubility: Freely soluble in water, insoluble in ethanol in ethanol or in ether

Nuclease Free Water

Highly pure, protease and DNase free water for use in all molecular biology applications.

- Water is membrane-filtered, autoclaved
- Not DEPC-treated
- Protease and DNase-free
- Designed for use in all molecular application
- Nuclease-free Water incubated for 16 hours at 37°C results in a DNA pattern free of detectable nuclease degradation as determined by agarose gel electrophoresis.

STORAGE CONDITIONS: Nuclease-Free Water should be stored at room temperature (15-25°C)

APPLICATIONS

Molecular biology grade water is ideal for the preparation of reagents, rinsing glassware and plasticware, and other molecular biology applications where RNase, DNase, and Protease-free water is required. It is widely used for several fundamental procedures like PCR, gel electrophoresis and DNA sequencing etc.

PROPERTIES

Appearance: Colorless solution
Clarity: Clear and free of particles
DNase : None detected
Sterility: No bacterial or fungal growth is observed after 30 days of incubation

MagGreen DNA Loading Buffer

PACK SIZE: 1ml/5ml

- 10X Gel Loading buffer contains a non-carcinogenic fluorescent dye along with an orange tracking dye.
- A replacement to EtBr.
- MagGreen dye can be visualized in blue light transilluminator which replaces the use of UV.
- Sensitivity is 25 times greater than EtBr.

HIGHLIGHTS

- Environmental and User-friendly dye (Non-hazardous)
- UV-transilluminator not required.
- Dark room not required.
- Visualize DNA as it separates in real time.
- Dye will not hinder any downstream applications such as gel elution and cloning.

STORE: Storage at 4°C.

NOTE:

Add 1-2 µl of dye per µg of DNA. Once opened, stable for 6 months, if handled and stored at proper conditions.

Total RNA Extraction Kit

Xpress RNA Cell Kit

XpressRNA Cell kit provide easy, quick, and efficient method for total RNA extraction from fresh human saliva, bacteria, and cultured cell samples. The XpressRNA provides nanoparticle-based purification of total RNA with high quality indices as evident from the A260/280 ratio >1.8, high RIN scores and minimal genomic DNA contamination. Purified RNA can be used for downstream applications including cDNA synthesis, RT-qPCR, Next-Generation Sequencing and Microarray expression analysis.

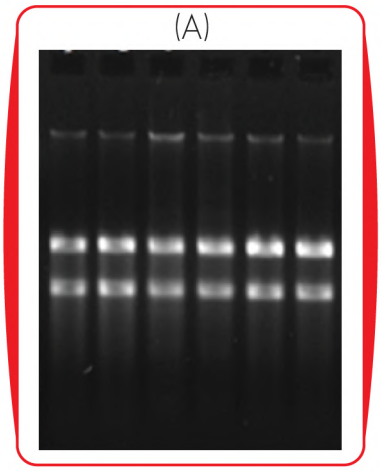
HIGHLIGHTS

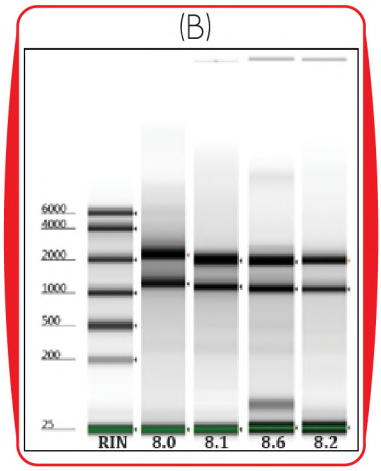
- Quick and efficient method for RNA isolation using Nanoparticles in less than an hour.
- No phenol/chloroform, no LiCl or ethanol precipitation.
- High quality and ready-to-use total RNA for any downstream process.

Specifications	Saliva Samples	Bacterial Samples	Cell Line Samples
Sample type	Whole saliva	Bacteria	Cultured cells
Starting material	0.2 ml	$1x10^9$ cells	$1x10^6$ cells
Elution volume	30-50 µl	50-100 µl	30-50 µl
Time per prep	45 minutes		
Purification target	Total RNA		
Yield*	3-10 µg	5.5-35 µg	0.25-30 µg
Purity	260/280 ≥ 1.8		
RIN	≥8.0		
Storage condition	MagNa mix and Proteinase K at 2-8°C		
Shipping condition	Room Temperature		

* Yield varies due to sample heterogeneity

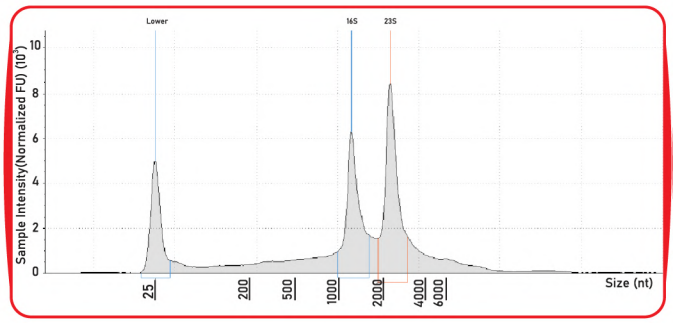
Saliva Samples



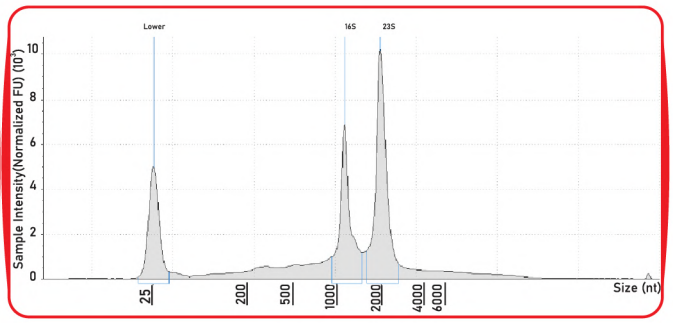


Total RNA from saliva samples of different individuals were purified using the XpressRNA Saliva Kit and run on 1.5% TAE gel *(A)*. Representative aliquots were run on an Agilent® Tape station *(B)*. RIN values confirm the overall integrity of the RNA.

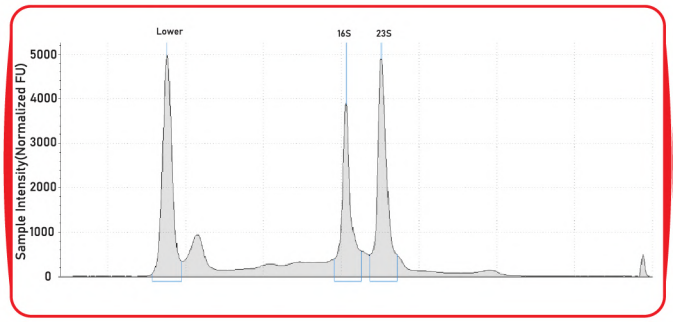
Agilent Tape station profile: RIN 8.0



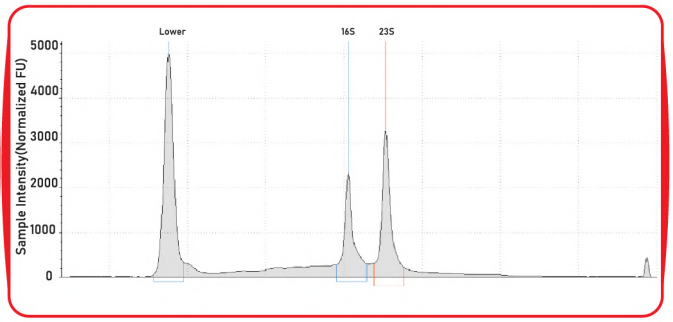
Agilent Tape station profile: RIN 8.1

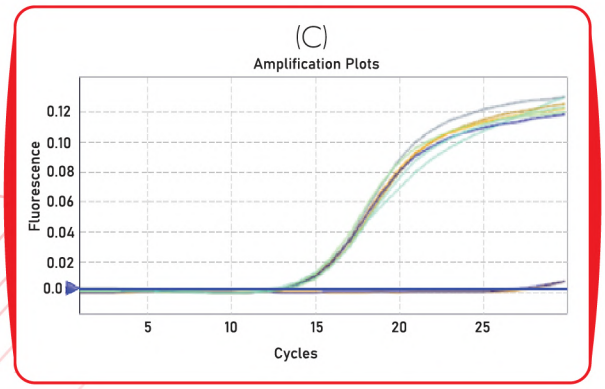


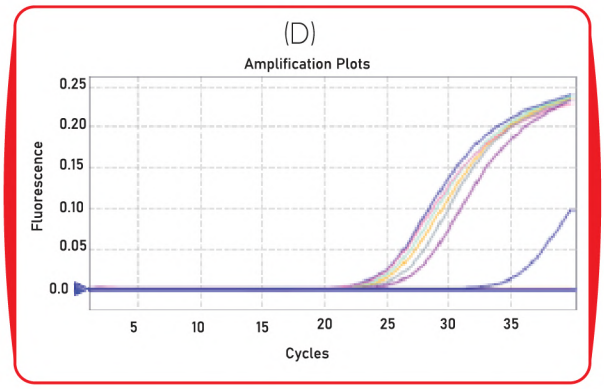
Agilent Tape station profile: RIN 8.6



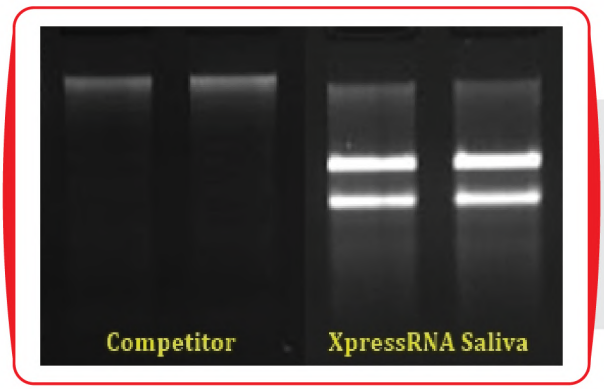
Agilent Tape station profile: RIN 8.2





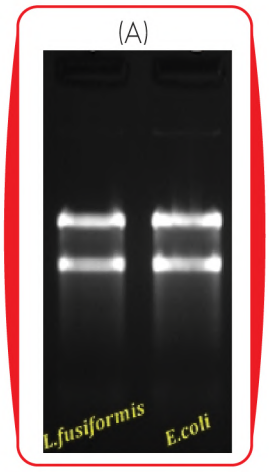


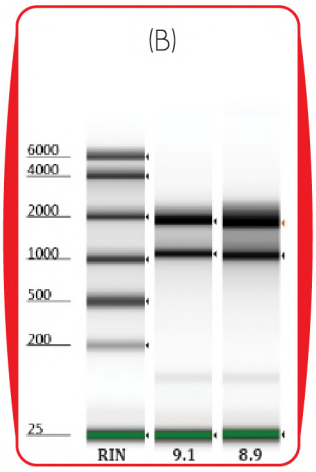
To demonstrate compatibility with downstream applications, samples were subsequently used for RT-qPCR for amplification of *(C)* human GAPDH gene and *(D)* bacterial V3 region.

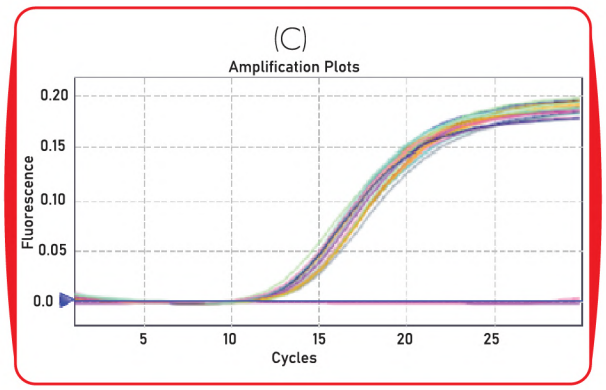


Total RNA from saliva sample of single individual in duplicates were purified using the competitor kit and XpressRNA cell Kit.

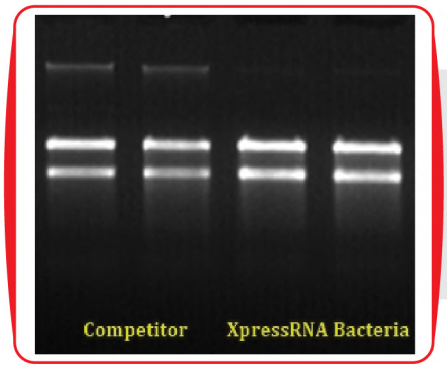
Bacterial Samples





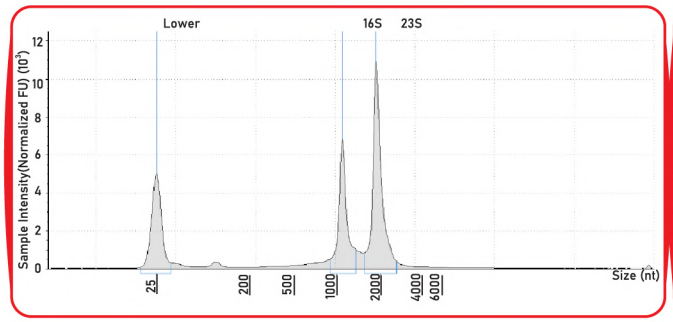


Total RNA from bacterial cultures (L. Fusiformis and E.coli) was purified using the XpressRNA Bacteria Kit and run on 1.5% TAE gel *(A)*. Aliquots were run on an Agilent® Bioanalyzer® 2100 *(B)*. RIN values confirm the overall integrity of the RNA. To demonstrate compatibility with downstream applications, samples were subsequently used for RT-qPCR for amplification *(C)*. bacterial V3 region.

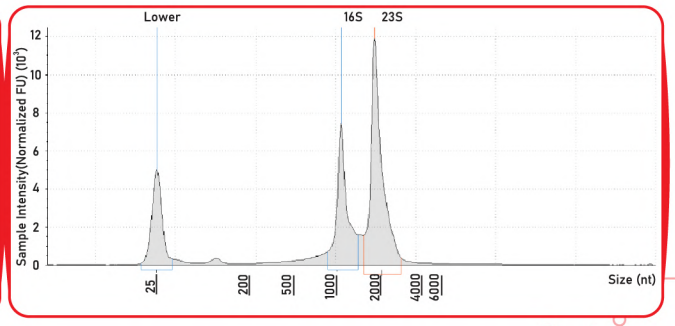


Total RNA from Gram negative (E.coli) and Gram positive (L. Fusiformis) bacterial cultures was purified using the competitor kit and XpressRNA Bacteria Kit.

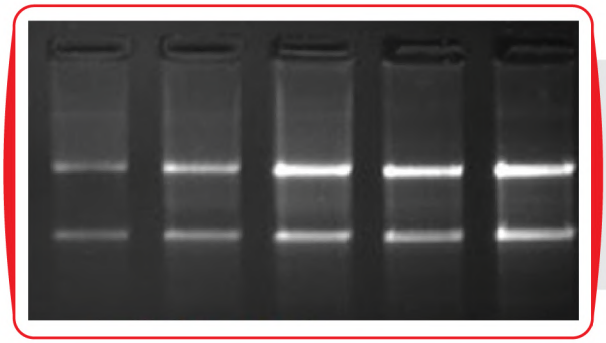
Agilent Tape station profile: RIN 9.1



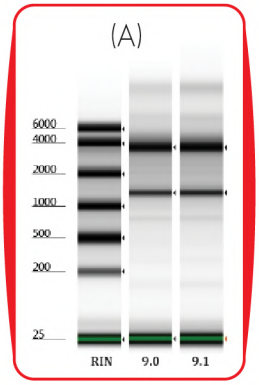
Agilent Tape station profile: RIN 8.9

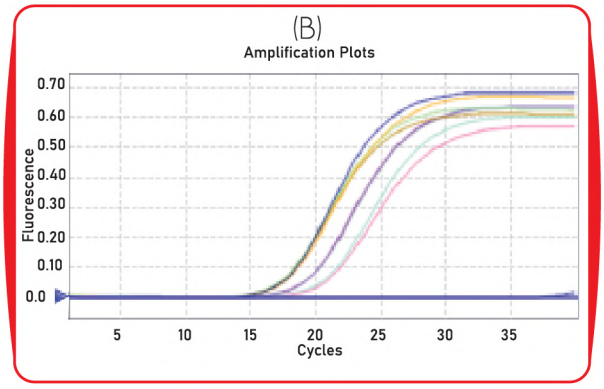


Cell line Samples

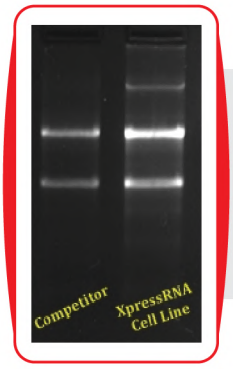


Total RNA was purified from varying amounts of HeLa cells, from 10^2x10^6 cells using the XpressRNA Cell Line Kit and representative aliquots were run on 1.5% TAE gel.



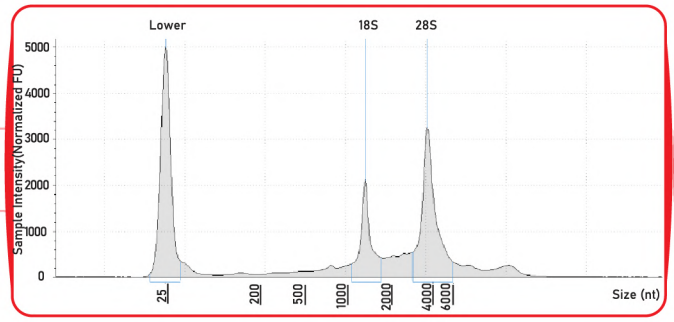


Representative RNA aliquots were run on an Agilent® Tape station *(A)*. RIN values confirm the overall integrity of the RNA. To demonstrate compatibility with downstream applications, samples were subsequently used for RT-qPCR for amplification of *(B)* human GAPDH region

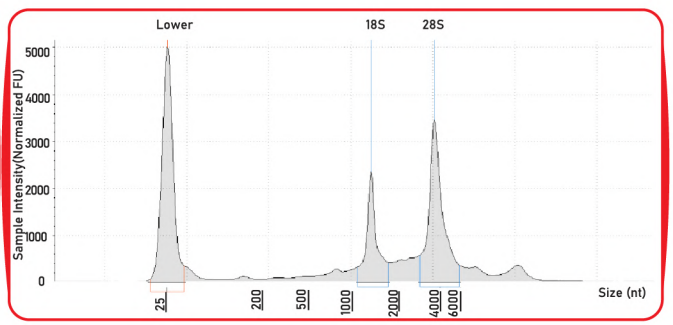


Total RNA from IMR-32 neuroblast cells was purified using the competitor kit and XpressRNA Cell Kit.

Agilent Tape station profile: RIN 9.0

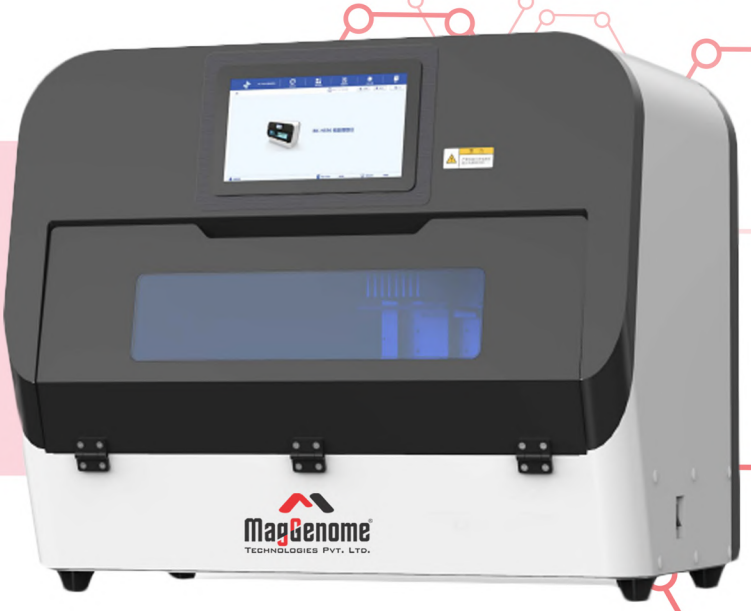


Agilent Tape station profile: RIN 9.1



XpressAutomag Nucleic acid extraction Instrument

XpressAutoMag is a high throughput, high sensitive automated nucleic acid extraction equipment which is optimized for various nucleic acid extraction kit. The instrument is flexible, provides stable result, low cost, equipped with efficient filtration device and safety gate design. It can effectively avoid cross contamination and ensure the quality of nucleic acid extraction.



Model	XpressAutomag
Nucleic Acid Extraction Method	Paramagnetic particle method
Sample Capacity	96-well
Sample Volume	20-1000µl
Extraction Time	11min-60min
Magnetic Bead Recovery	≥98%
Magnetic Flux of Bar	≥4500Gs
Operating Temperature	RT-105 degree celsius
Shock Function	Yes
Temperature Accuracy	0.1 degree celsius
Sample Protection Function	Power on self-check, power off protection, high-temperature alarm,over-temperature protection
Disinfection Method	UV Light
Safety Door Design	The instrument is suspended when the safety door is opened
Operating System	Windows system
Scanning	Optional
Storage	>1000
Interface	USB interface
Power Supply	AC100-240V 50Hz/60Hz
Package Size(W*D*H)mm	940*710*910mm
Gross Weight(kg)	110kg

Xpress Automag Blood DNA Kit

XpressAutomag Blood DNA Kit is designed for optimal automated extraction of high-quality DNA from blood with a starting volume of 200µl with an approximate yield of ≥5µg of DNA. The kit is well suitable for the instruments Kingfisher Flex, Zybio and Alta, it can process from 1-96 samples in a single run. The Kit provides patented magnetic nanoparticle-based DNA purification from whole blood samples. DNA extracted using XpressAutomag Blood DNA Kit is amenable for all downstream applications such as PCR, Real-time PCR, restriction digestion, and sequencing applications. The kit can be easily adapted to automated magnetic- based separation instruments and workstations.

Product Highlights

- Sample input requirement: Min 200µl upto 3ml
- Isolate high-quality gDNA from fresh/ frozen/ clotted/ or aged blood samples
- Fast, reproducible, and easy processing using magnetic bead based system
- Isolate gDNA from blood stored in different vacutainers (EDTA, Heparin, Citrate, and Fluoride)
- Recovered gDNA is compatible with various downstream applications

Extraction of DNA from different blood storage vacutainers

Table 1: Nanodrop data of the gDNA extracted from different blood storage vacutainers

Storage	Conc. (ng/µl)	A260/280	A260/230	Yield (µg)
EDTA	118.3	1.93	1.85	5.92
Citrate	120.6	1.93	1.85	6.03
Heparin	116.2	1.94	1.77	5.81
Fluoride	127.7	1.93	1.84	6.39

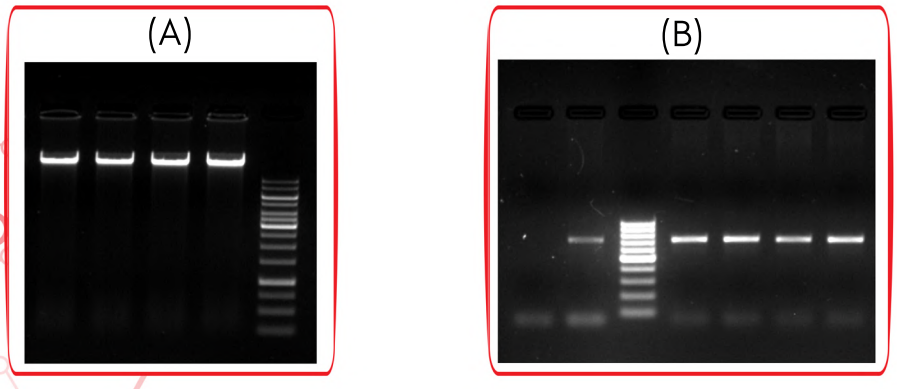


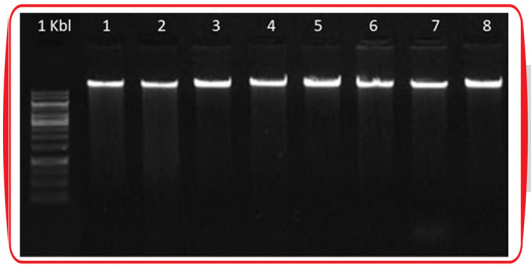
Figure (A): AGE Profile of the extracted gDNA (200 ng normalized gDNA); (B): PCR amplification of the extracted gDNA using LCO1490 & HCO2198 (700bp product)

Xpress Automag **Saliva DNA Kit**

XpressAutomag Saliva DNA Kit provides patented magnetic nanoparticle-based DNA purification from saliva samples. The kit is designed to isolate high-quality DNA from saliva with a starting volume of 500µl with an approximate yield of ≥5µg of DNA. The purification process does not involve phenol/chloroform extraction or alcohol precipitation. DNA extracted using XpressAutomag Saliva DNA Kit is amenable for all downstream applications such as PCR, Real-time PCR, restriction digestion, and sequencing applications. The kit can be easily adapted to automated magnetic-based separation instruments and workstations.

Product Highlights

- Sample input requirement: Min 500µl (stored saliva)
- Isolate high-quality gDNA from fresh/ frozen/ or stored saliva samples
- Fast, reproducible, and easy processing using magnetic bead based system
- Recovered gDNA is compatible with various downstream applications
- Automation friendly with KingFisher Flex, Duo, ZYBIO, Himedia and others



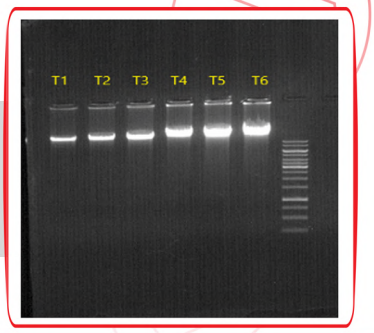
1% Agarose gel electrophoresis profile of Genomic DNA from saliva samples

Xpress Automag **Tissue DNA Kit**

XpressAutomag Tissue DNA Kit is designed for optimal automated extraction of high-quality DNA from blood with a starting volume of 5mg to 20mg with an approximate yield of ≥5µg of DNA. The kit is well suitable for the instruments Kingfisher Flex, Zybio and Alta, it can process from 1-96 samples in a single run. The Kit provides patented magnetic nanoparticle-based DNA purification from different tissue samples. DNA extracted using XpressAutomag Tissue DNA Kit is amenable for all downstream applications such as PCR, Real-time PCR, restriction digestion, and sequencing applications. The kit can be easily adapted to automated magnetic - based separation instruments and workstations.

Product Highlights

- Sample input requirement: Min 5mg to 20mg
- Isolate high-quality gDNA from fresh/ frozen/ or ethanol preserved mammalian tissues and cell lines.
- Fast, reproducible, and easy processing using magnetic bead-based system
- Recovered gDNA is compatible with various downstream applications
- Quick Turn Around Time & Recommended for HLA, NGS & Microarray



1% Agarose gel electrophoresis profile of Genomic DNA from Tissue samples (From 5mg sample to 20mg sample)

XpressPure Size Select (NGS)

XpressPure NGS size selection and clean-up bead offer a straightforward and reliable selection of DNA libraries for different NGS workflows with high recovery rates. The system combines MagGenome's proprietary chemistries with reversible nucleic acid-binding properties of magnetic beads to selectively bind fragments of a specific range (150-800 bp) and eliminate sub-optimal fragment sizes. XpressPure size selection beads can selectively bind DNA fragments based on different sample to bead ratios offering the customer to perform accurate single or double-sided size selection, designed to narrow the library size range, leading to more consistent performance between libraries.

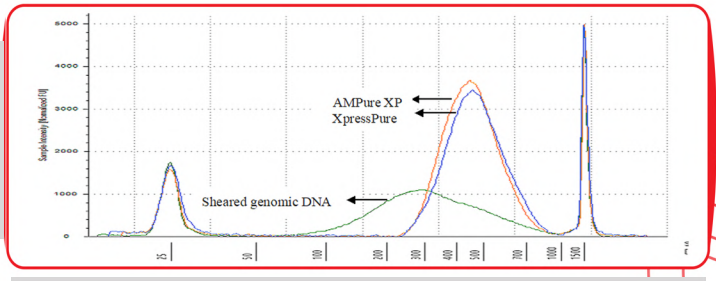
Product Highlights

- Efficient clean up and single or double-sided size selection
- Predictable and consistent size selection
- Easy substitution into bead-based workflows
- Fast Magnetic response time and low viscosity
- Automation friendly

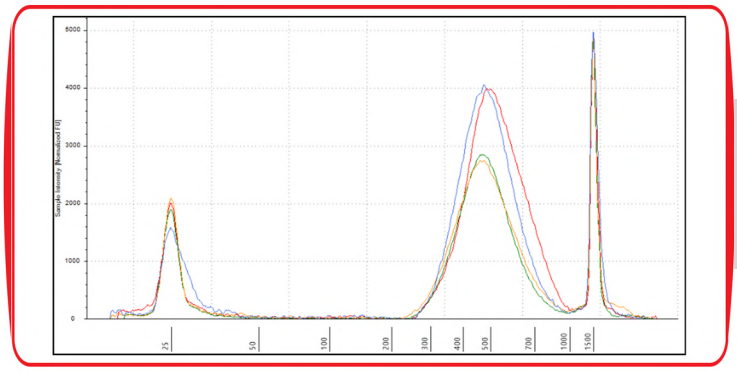
Handling Recommendations

- Store the beads at the recommended temperature (4°C).
- Store the elution buffer at room temperature.
- Vortex the beads before use.
- Allow enough time for beads to come to room temperature before use.

(A): Tape station profile - Data showing final library distribution (400bp-500bp) for 300bp in NEB Next Ultra DNA Library kit using XpressPure and AMPure XP beads.



A. Comparison of XpressPure and AMPureXP in NGS library size selection



(B): Tape station profile - data showing 200bp capture using 1.8x bead volume of XpressPure bead.

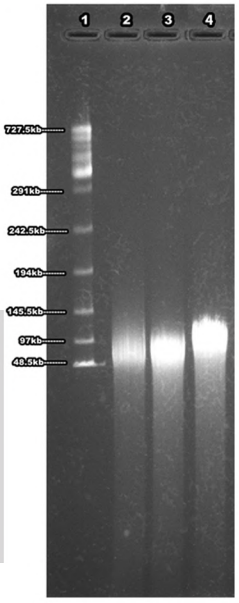
B. Highly reproducible size selection: XpressPure Bead shows consistent yield and library size distributions.

XpressPure Size Select (HMW)

XpressPure SizeSelect HMW beads enables the user to purify and select high molecular weight DNA fragments using MagGenome's proprietary reversible nucleic acid-binding chemistry of magnetic nanoparticles. The purified HMW DNA is ideal for ultra-long, high throughput or third-generation sequencing platforms such as Nanopore and PacBio. With a unique binding system, XpressPure SizeSelect HMW beads can selectively bind DNA fragments up to 250kb in length with high purity, suitable for PacBio and Oxford Nanopore platforms. XpressPure SizeSelect HMW beads performance is comparable with AMPure XP and can be replaced with other beads without compromising the quality of the library.

Product Highlights

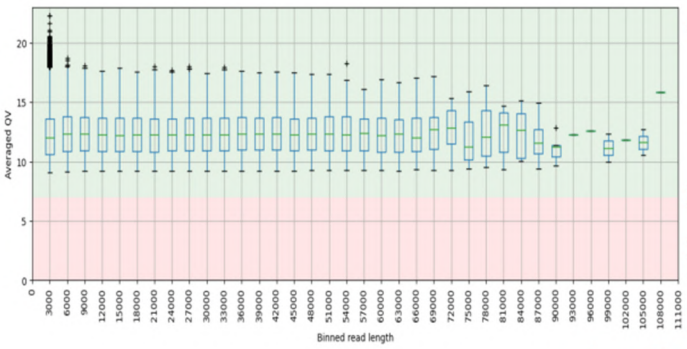
- Paramagnetic bead-based chemistry
- Compatible with various ultra-long read sequencing platform
- Fast magnetic response and low viscosity
- Consistent performance
- Can selectively bind DNA up to 250 kb

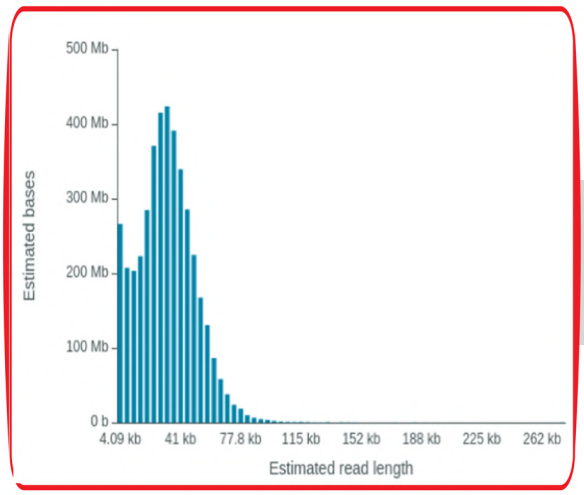


PFGE gel image showing XpressPure SizeSelect HMW Bead clean up DNA from various sample 1-Lambda PFG Ladder (Size range: 48.5 - 1,018 kb), 2- Saliva DNA cleanup using XpressPure SizeSelect HMW Bead, 3 - Blood DNA cleanup using XpressPure SizeSelect HMW Bead, 4 - Plant DNA isolated using XpressPure SizeSelect HMW Bead.

QC Data from Oxford Nanopore sequencing

Parameters	XpressPure SizeSelect HMW Bead	Competitor XP
Total no of reads generated	294,097	107,501
Longest read	2,44,795 bp	1,15,529 bp





Graph displaying the Nanopore MinION sequencer output with the estimated read length histogram while using the XpressPure SizeSelect HMW bead .

MagGenome
Innovate with Magnetism

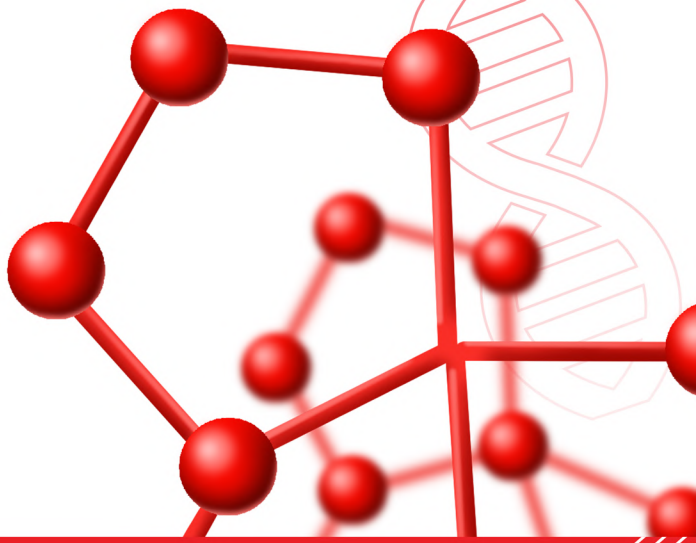
Product Catalogue

To view full product details or to order the kits
visit www.maggenome.com/products or www.maggenome.com/support

S NO	Catalogue	Item Description	Item Unit
		DNA Extraction Kits	
1	MG17Ti-50	XpressDNA Tissue Kit	50 rxn
2	MG17Ti-250	XpressDNA Tissue Kit	250 rxn
3	MG18Sa-50	XpressDNA Saliva Kit	50 rxn
4	MG18Sa-250	XpressDNA Saliva Kit	250 rxn
5	MG17Bl-S50	XpressDNA Blood Mini Kit	50 rxn
6	MG17Bl-S250	XpressDNA Blood Mini Kit	250 rxn
7	MG18Bl- M20	XpressDNA Blood Midi Kit	20 rxn
8	MG18Bl- X20	XpressDNA Blood Maxi Kit	20 rxn
9	MG18Pl-50	XpressDNA Plasmid Mini Kit	50 rxn
10	MG18Pl-250	XpressDNA Plasmid Mini Kit	250 rxn
11	MG18Pl-M20	XpressDNA Plasmid Midi Kit	20 rxn
12	MG19DBS-50	XpressDNA Dried Blood Spot Kit	50 rxn
13	MG19DBS-250	XpressDNA Dried Blood Spot Kit	250 rxn
14	MG18Ba-50	XpressDNA Bacteria Kit	50 rxn
15	MG18Ba-250	XpressDNA Bacteria Kit	250 rxn
16	MG20Mtb-50	XpressDNA Mycobacterium Kit	50 rxn
17	MG20Mtb-250	XpressDNA Mycobacterium Kit	250 rxn
18	MG20So-50	XpressDNA Soil Kit	50 rxn
19	MG20So-250	XpressDNA Soil Kit	250 rxn
20	MG20Pab-50	XpressDNA Pathogen Blood Kit	50 rxn
21	MG20Pab-250	XpressDNA Pathogen Blood Kit	250 rxn
22	MG20Pau-50	XpressDNA Pathogen Urine Kit	50 rxn
23	MG20Pau-250	XpressDNA Pathogen Urine Kit	250 rxn
24	MG20St-50	XpressDNA Stool Kit	50 rxn
25	MG20St-250	XpressDNA Stool Kit	250 rxn
26	MG20PlL-50	XpressDNA Plant Kit	50 rxn
27	MG20PlL-250	XpressDNA Plant Kit	250 rxn
		RNA Extraction Kits	
28	MG20Vrna -50	XpressRNA Viral Kit	50 rxn
29	MG20Vrna-250	XpressRNA Viral Kit	250 rxn
30	MG20Rcl-50	XpressRNA Cell Kit	50 rxn
31	MG20Rcl-250	XpressRNA Cell Kit	250 rxn
32	TLS20VR2000	TheraMag Viral RNA Extraction Kit	2000 rxn
33	TLS20VR64Z	TheraMag Viral RNA Extraction Kit - ZYBIO	64 rxn
34	TLS20VR96Z	TheraMag Viral RNA Extraction Kit - ZYBIO	96 rxn

S NO	Catalogue	Item Description	Item Unit
Cleanup & Size Selection			
35	MG20Pcr-5	XpressPure Beads - PCR Cleanup Kit	5 ml
36	MG20Pcr-50	XpressPure Beads - PCR Cleanup Kit	50 ml
37	MG22XPNP-5	XpressPure Beads - Nanopore	5 ml
38	MG22XPNP-60	XpressPure Beads - Nanopore	60 ml
39	MG22XPNGS-5	XpressPure Beads - NGS	5 ml
40	MG22XPNGS-60	XpressPure Beads - NGS	60 ml
Enzymes			
41	MG19RA-1	RNaseA solution (10 mg/ml) 1ml	1 ml
42	MG19RA-5	RNaseA solution (10 mg/ml) 1ml X 5	5 ml
43	MG19PK-1	Proteinase K (20 mg/ml)	1 ml
44	MG19PK-5	Proteinase K (20 mg/ml) 1ml X 5	5 ml
45	MG19LY-1	Lysozyme 1 ml	1 ml
46	MG19LY-5	Lysozyme 1 ml X 5	5 ml
47	MG21CRNA-1	Carrier RNA 1ml	1 ml
48	MG21CRNA-5	Carrier RNA 5ml	5 ml
Magnetic Stands			
49	MG17MS-6	Xpress Magnetic Stand 6	6 well
50	MG17MS-16	Xpress Magnetic Stand 16	16 well
51	MG17MS-24	Xpress Magnetic Stand 24	24 well
52	MG19MS-96	Xpress Magnetic Stand 96	96 well
Lab Essentials			
53	MG19DS-100	Nuclease Free Water	100 ml
54	MG19DS-250	Nuclease Free Water	250 ml
55	MG19DS-500	Nuclease Free Water	500 ml
56	MG19MGN-1	MagGreen DNA loading buffer	1 ml
57	MG19MGN-5	MagGreen DNA loading buffer	5 ml
58	MG20TE-100	Xpress-TE Buffer	100 ml
59	MG20TE-500	Xpress-TE Buffer	500 ml
Sample Collection Kits			
60	MG19STBC	MagStable DNA Saliva Collection Kit	1 qty
61	MG20MTM-2	Xpress Molecular Transport Medium	1 qty
62	MG20Vtm-3	MagGenome Viral Transport Medium	1 qty
DNA Automation Kits			
63	MG22AMB96	XpressAutoMag Blood DNA Kit with Consumables	96 rxn
64	MG22AMB480	XpressAutoMag Blood DNA Kit with Consumables	480 rxn
65	MG22AMS96	XpressAutoMag Saliva DNA Kit with Consumables	96 rxn
66	MG22AMS480	XpressAutoMag Saliva DNA Kit with Consumables	480 rxn
67	MG22AMT96	XpressAutoMag Tissue DNA Kit with Consumables	96 rxn
68	MG22AMT480	XpressAutoMag Tissue DNA Kit with Consumables	480 rxn
69	MG22AMB96	XpressAutoMag Blood DNA Kit	96 rxn
70	MG22AMB480	XpressAutoMag Blood DNA Kit	480 rxn

S NO	Catalogue	Item Description	Item Unit
71	MG22AMS96	XpressAutoMag Saliva DNA Kit	96 rxn
72	MG22AMS480	XpressAutoMag Saliva DNA Kit	480 rxn
73	MG22AMT96	XpressAutoMag Tissue DNA Kit	96 rxn
74	MG22AMT480	XpressAutoMag Tissue DNA Kit	480 rxn
Nucleic Acid Extractor			
75	MG22NAEI96	XpressAutomag Nucleic Acid Extraction Insturment	
Accessory Products			
76	IMC-96	Tip Comb 96-KingFisher/Himedia/ZYBIO/Genetix	100 Nos
77	IDW-96-22-C	2.2ul Deep Well Plate-KingFisher/Himedia/ZYBIO /Genetix	50 Nos
78	IDW-96-22-C	0.2/0.5ul Deep Well Plate-KingFisher/Himedia/ ZYBIO/Genetix	50 Nos
79	MG20Rbcl-50	Xpress Blood RBC Lysis buffer	50 ml
80	MG20Rbcl-100	Xpress Blood RBC Lysis buffer	100 ml
81	PS-1000	MagNa Mix™ - Magnetic Nanoparticles	1 litre
82	PS-002	MagNa Mix™ - Magnetic Nanoparticles	250 ml
83	PS-001	MagNa Mix™ - Magnetic Nanoparticles	10 ml



SAVE PAPER SAVE TREES

The supporting documents such as Kit Instruction Manual , Quick Reference Guide , Certificate of Analysis and MSDS are available and can be downloaded from our website www.maggenome.com/resources

MagGenome®

Innovate with Magnetism

CONTACT US

MagGenome Technologies Pvt Ltd.

Plot No. 153, First Main Road,
Industrial Estate, Perungudi,
Chennai - 600 096.

TECHNICAL SUPPORT

+91 9633 565 461
+91 7259 846 997

www.maggenome.com

AUTHORIZED DISTRIBUTOR

FOR ENQUIRY

info@maggenome.com
sales@maggenome.com
support@maggenome.com