

SAMPLE COLLECTION & PRESERVATION KITS

Ambient Temperature Collection, Preservation &
Transport of Stool, Saliva, Blood, Urine and more



Corporate Headquarters



Norgen Biotek is dedicated to providing our customers with first class sample preparation kits for RNA, microRNA, DNA, and protein purification, clean-up and concentration for research and diagnostic applications; and to provide dedicated and expert support services to our customers and

commercial partners worldwide.

Norgen is an **ISO 9001: 2015** and **ISO 13485: 2016** registered company, indicating our commitment to quality.

Ordering Information

To Order by Phone:

Tel: (905) 227-8848

Toll Free in North America: 1-866-667-4362

To Order by Fax:

(905) 227-1061

To Order by Email:

orders@norgenbiotek.com

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To Order by Mail:

Norgen Biotek Corp.

3430 Schmon Parkway

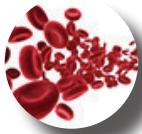

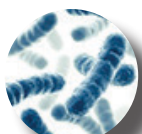




Thorold, Ontario

L2V 4Y6

CANADA



Table of Contents

1		cf-DNA / cf-RNA Preservation	Page 4
2		Saliva Sample Preparation Kits	Page 5
3		Stool Sample Preparation Kits	Page 8
4		Urine Sample Preparation Kits	Page 11
5		Swab Based Collection and Preservation	Page 12
6		Milk DNA Preservation and Isolation	Page 14
7		Accessories	Page 15



cf-DNA/cf-RNA Preservative Tubes

- Formaldehyde-free preservative, no cross-linking of DNA
- Preserve cf-DNA & cf-RNA for 30 days at ambient temperature
- No plasma volume loss after shipping/transportation
- Prevent hemolysis allowing better separation of plasma

Norgen's cf-DNA/cf-RNA Preservative Tubes are closed, evacuated plastic tubes for the collection and the preservation of cf-DNA, ct-DNA, cf-RNA and CTC's in human whole blood samples during storage and shipping. Using these tubes in combination with Norgen's Plasma/Serum Cell-Free Circulating DNA Purification Kits or Norgen's Plasma/Serum RNA Purification Kits enables the purification and concentration of an inhibitor-free cf-DNA/ct-DNA/cf-RNA in a very small elution volume. Plasma recovered from Norgen's cf-DNA/cf-RNA Preservative Tubes is also compatible with any other cf-DNA and/or cf-RNA purification method. that is compatible with any downstream application assays.



Kit Specifications

Specifications	
Tube Size	16 x 100 mm
Tube Type	PET Tube
Blood Draw Volume	8.4 mL in 10 mL Tubes
Recovered Plasma Volume	Approximately 6-7 mL (not affected by shipping)
Preservative	Non formaldehyde - Proprietary preservation agent
Length of cf-DNA Preservation	Up to 30 days at room temp. (15-25°C) Up to 8 days at 37°C
Length of cf-RNA Preservation	Up to 30 days at room temp. (15-25°C)
Length of CTCs Preservation	Up to 14 days at room temp. (15-25°C)



Figure 1. No plasma volume loss after shipping/transportation. Blood was drawn from 6 different donors into Norgen, Competitor, and EDTA tubes. One set was kept in the lab at room temperature and the other was packed in an insulated box and shipped from Thorold, ON via overnight air freight to Winnipeg, MB and then back to Thorold ON (elapsed time 72 h). The plasma volume recovered from Norgen's cf-DNA/cf-RNA Preservative Tubes did not change before shipping or after shipping (6-7 mL recovered plasma) whereas for both Competitor tubes and EDTA Tubes the plasma volume recovered before shipping was ~ 4mL and after shipping was ~ 2.5mL.

Ordering Information

Product Name	Cat. No.	Size
cf-DNA/cf-RNA Preservative Tubes	63950	50 tubes
cf-DNA/cf-RNA Preservative Tubes	63960	100 tubes



Saliva DNA Collection and Preservation Devices

- Non-invasive, user-friendly sample collection
- Sample collection and preservation in one convenient kit
- Samples are non-infectious and can be handled and shipped safely
- Preserved DNA is stable for years at ambient temperature
- High quality DNA is suitable for sensitive downstream applications including PCR, qPCR, sequencing, SNP analysis, microarrays, RFLP and Southern Blot Analysis

Norgen's Saliva DNA Collection and Preservation Devices are designed for 1) simple and non-invasive saliva collection and 2) preservation of DNA in saliva samples at ambient temperature. Each of the 50 Saliva DNA Collection and Preservation Devices consists of 3 components: (1) Saliva Collection Funnel and Collection Tube, (2) Collection Tube Cap, and (3) Norgen's Saliva DNA Preservative contained within a sealed squeezable ampoule. Saliva samples are collected by spitting inside the Collection Funnel which has been assembled with the Collection Tube.

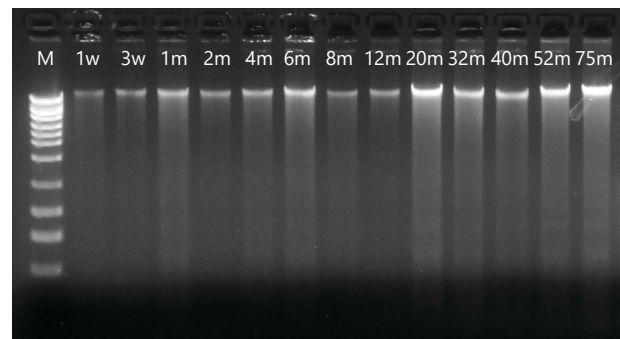


Figure 1. Stability of DNA Preserved in Norgen's Saliva DNA Preservative at Room Temperature for up to 75 Months. Saliva samples were collected from numerous donors and mixed, and then an equal volume of Norgen's Saliva DNA Preservative was added to the saliva. The preserved saliva was then stored at room temperature for up to 75 months. Saliva DNA was subsequently isolated at 1 week, 3 weeks, 1 month, 2 months, 4 months, 6 months, 8 months, 12 months, 20 months, 32 months, 40 months, 52 months and 75 months from 0.5 mL of the saliva/preservative sample using Norgen's Saliva DNA Isolation Kit (Cat. RU45400). For visual analysis, 100 μ L of the purified DNA was run on an agarose TAE gel. As it can be seen, there is no evidence of DNA degradation after the saliva samples are stored for 75 months at ambient temperatures in Norgen's Saliva DNA Preservative. Furthermore, the size of the DNA was maintained over 24 kb for the entire 75 month period. M: Norgen's UltraRanger 1 Kb DNA Ladder (Cat. 12100).

Kit Specifications

Specifications	
Volume of Saliva Collected	2 mL
Volume of Saliva-Preservative Mix	4 mL
Preservation Temperature	Room Temperature
Preservation time	Over 5 years at room temperature

Ordering Information

Product Name	Cat. No.	Size
Saliva DNA Collection and Preservation Devices	RU49000	50 devices
Saliva DNA Collection and Preservation Devices 	49000	50 devices

Note: The CE marked version of this product is not available for sale in the United States.



Saliva DNA Collection, Preservation and Isolation Kit

2

Sample Collection and Preservation

- Non-invasive, user-friendly sample collection
- Sample collection, preservation and DNA isolation in one convenient kit
- Samples are non-infectious and can be handled and shipped safely
- Preserved DNA is stable for years at ambient temperature
- High quality DNA is suitable for sensitive downstream applications including PCR, qPCR, sequencing, SNP analysis, microarrays, RFLP and Southern Blot Analysis

The Saliva DNA Collection, Preservation and Isolation Kit contains 50 Individual Saliva DNA Collection and Preservation Devices, as well as the required reagents for the subsequent laboratory isolation of the saliva DNA from the preserved samples. Each of the 50 Individualized Saliva DNA Collection, Preservation and Isolation Kits consists of 3 components: (1) Saliva Collection Funnel and Collection Tube, (2) Collection Tube Cap, and (3) Norgen's Saliva DNA Preservative contained within a sealed squeezable ampoule. This kit is ideal for collecting, preserving and isolating DNA samples for epidemiological and population studies.

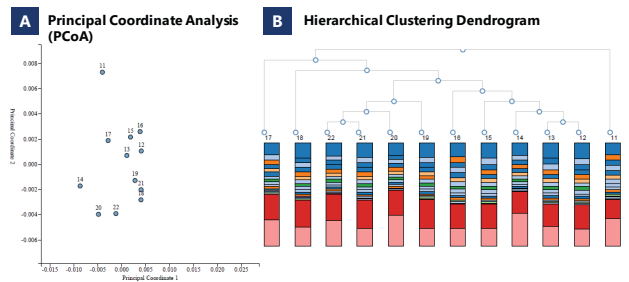


Figure 1. Illumina MiSeq 16s rRNA metagenomics data from saliva samples preserved for over 6 years using Norgen's Saliva DNA Collection and Preservation Devices. The saliva DNA was isolated using Norgen's Saliva DNA Isolation Kit (Cat. RU45400) from saliva that had been preserved for various periods of time up to 6 years at room temperature. A) Principal Coordinate Analysis of 12 saliva microbiomes showing differences in the distribution of taxonomic classifications between samples up to kingdom level. B) Hierarchical clustering of 12 saliva microbiomes based on genus-level classifications, including a bar chart showing the relative abundance of genus-level classifications for each sample in the dendrogram.

Kit Specifications

Specifications	
Volume of Saliva Collected	2 mL
Preservation Temperature	Room Temperature
Preservation time	Over 5 years at room temperature
Average Yield from 0.5 mL	5 - 20 µg

Ordering Information

Product Name	Cat. No.	Size
Saliva Collection, Preservation and Isolation Kit	RU35700	50 devices
Saliva Collection, Preservation and Isolation Kit CE	35700	50 devices

Note: The CE marked version of this product is not available for sale in the United States.



Saliva RNA Collection and Preservation Devices

- Reliable and cost-effective
- Non-invasive, user-friendly sample collection
- Sample collection and preservation in one convenient kit
- Preserved RNA is stable for up to 2 months at room temperature
- High quality RNA is suitable for sensitive downstream applications including RT-PCR, RT-qPCR, RNA sequencing and microarray

Norgen's Saliva RNA Collection and Preservation Devices are designed for 1) simple and non-invasive saliva collection and 2) preservation of RNA in saliva samples at ambient temperature. Each of the 50 Saliva RNA Collection and Preservation Devices consists of 3 components: (1) Saliva Collection Funnel and Collection Tube, (2) Collection Tube Cap, and (3) Norgen's Saliva RNA Preservative contained within a sealed squeezable ampoule. RNA can be isolated from the preserved saliva samples using Norgen's Total RNA Purification Kit (Cat# 17200). Each of Norgen's Collection Tubes is labeled with a unique serial number that can be used for secure and anonymous tracking of the sample.

Kit Specifications

Specifications	
Volume of Saliva Collected	2 mL
Volume of Saliva-Preservative Mix	4 mL
Preservation Temperature	Room Temperature
Preservation time	Over 2 months at room temperature

Ordering Information

Product Name	Cat. No.	Size
Saliva RNA Collection and Preservation Devices	RU53800	50 devices

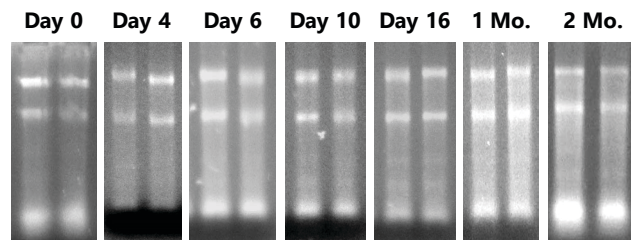
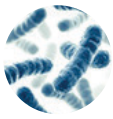


Figure 1. Stability of RNA Preserved in Norgen's Saliva RNA Preservative at room temperature for up to 2 months. Saliva samples were collected from numerous donors and mixed, and then an equal volume of Norgen's Saliva RNA Preservative was added to the saliva. The preserved saliva was then stored at room temperature for up to 2 months. Saliva DNA was subsequently isolated at day 0, day 4, day 6, day 16, 1 month and 2 months from 0.25 mL of the saliva/preservative sample using Norgen's Total RNA Purification Kit (Cat. 17200). For visual analysis, 7.5 μ L from 50 μ L elution was mixed with RNA loading dye and was run on an 1x MOPS agarose gel. RNA integrity was maintained after the saliva samples are stored up to 2 months at ambient temperatures in Norgens Saliva RNA Preservative.



Stool Nucleic Acid Collection and Preservation Tubes

- The preservative provides sample homogeneity eliminating sample variability
- Preserve and transport safely DNA & RNA at ambient temperature
- No cold shipping/storage needed - hassle-free and cost effective
- Isolate nucleic acids for any application including 16s NGS
- Robust preservation over a range of temperatures
- Eliminates odor and renders samples safe and non-infectious

Norgen's Stool Nucleic Acid Collection and Preservation Tubes are designed for the rapid preservation of nucleic acids from fresh stool specimens. The Stool Nucleic Acid Collection and Preservation Tubes contain Norgen's Stool Preservative in a liquid format. The Stool Preservative prevents the growth of Gram-negative and Gram-positive bacteria and fungi, and also inactivates viruses allowing the resulting non-infectious samples to be handled and shipped safely. In addition, the Stool Preservative eliminates the need to immediately process or freeze samples and allows the samples to be shipped to centralized testing facilities at ambient temperatures.


Kit Specifications

Specifications

Stool Input	2 g
Stability of Stool Nucleic Acids at Room Temperature	2 years for DNA 7 days for RNA*

* The RNA stability will be vary depending on the samples

Ordering Information

Product Name	Cat. No.	Size
Stool Nucleic Acid Collection and Preservation Tubes	45660	50 tubes
Stool Nucleic Acid Collection and Preservation Tubes Dx  Dx45660		50 tubes

Note: The CE marked version of this product is not available for sale in the United States.

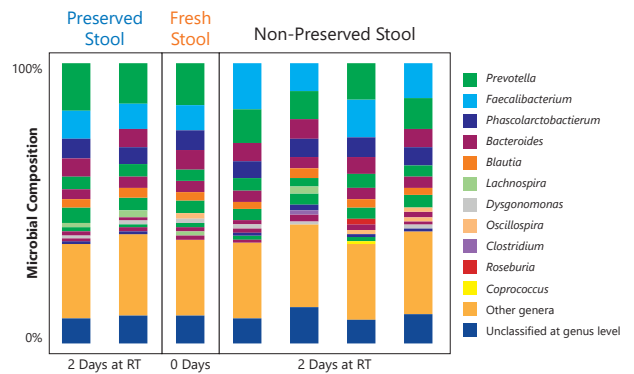
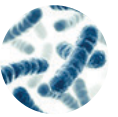


Figure 1. Hierarchical Clustering of Stool Samples at Phylum Level Under Different Storage Conditions. The microbial composition from the stool samples preserved in Norgen's Stool Nucleic Acid Collection and Preservation Tubes (Cat. 45630, 45660) did not differ significantly to that of controls (fresh stool from Day 0 at RT) over a 2 day period while non-preserved stool samples showed a distance in the dendrogram from the original stool profile.



Stool Nucleic Acid Collection and Preservation System

- Complete, user-friendly system to collect, preserve and transport stool samples
- The preservative provides sample homogeneity eliminating sample variability
- No cold shipping/storage needed - hassle-free and cost effective
- Isolate nucleic acids for any application including 16s NGS
- Customizable with various accessories for easy and safe collection
- Eliminates odor and renders samples safe and non-infectious



Norgen's Stool Nucleic Acid Collection and Preservation System is a complete system designed for collection, ambient storage and transport of nucleic acids from stool specimens. Each of the 50 clamshells contain: nitrile gloves, alcohol swabs, Fe-Col® Collection Paper, and Norgen's Stool Nucleic Acid Collection and Preservation Tube containing Norgen's Stool Preservative in a liquid format. The Stool Preservative eliminates the need to immediately process or freeze samples and allows the samples to be shipped to centralized testing facilities at ambient temperatures.

Kit Specifications

Specifications	
Stability of Stool Nucleic Acids at Room Temperature	2 years for DNA Up to 7 days for RNA*

* The RNA stability will be vary depending on the samples

Ordering Information

Product Name	Cat. No.	Size
Stool Collection and Preservation System	63700	50 devices

3

Sample Collection and Preservation

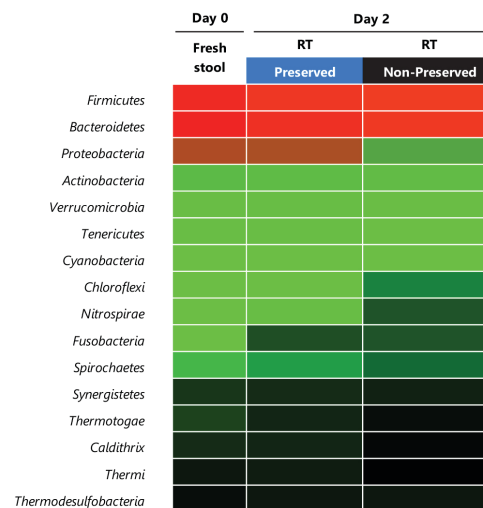
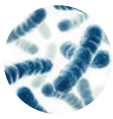


Figure 1. Relative Abundance of Bacterial Genera Between Preserved And Non-preserved Stool Sample Stored at RT For 2 Days. Preserved stool sample using Norgens Stool Nucleic Acid Collection and Preservation Tubes (Cat. 45630, 45660) showed closed relativeness to the fresh stool sample (Day 0).



Fecal DNA Collection & Preservation Mini Tubes

- No need to immediately process samples
- Includes pre-loaded beads for effective sample homogenization by bead beating (tubes are fully compatible with commercially available bead beating systems)
- DNA preservation at room temperature over 27 months
- Ship fecal samples at room temperature safely

Norgen's Fecal DNA Collection & Preservation Mini Tubes are designed for the rapid preservation of DNA from fresh fecal specimens. These tubes contain Norgen's Fecal DNA Preservative in a liquid format. Moreover, each collection tube is preloaded with beads for effective sample homogenization in any commercially available bead beater equipment (e.g. MP Biomedicals' FastPrep®-24). The preservative prevents the growth of Gram-negative and Gram-positive bacteria and fungi, and also inactivates viruses allowing the resulting non-infectious samples to be handled and shipped safely. This kit is highly suited to collection and preservation of fecal material from mouse, hamster, chinchilla, rabbit and more for microbiome studies and other applications.

Kit Specifications

Specifications (Cat. 17900)

Fecal Input	Maximum 30 mg (approximately 3-5 mouse droppings)
Stability of Fecal DNA at Room Temperature	27 months

Ordering Information

Product Name	Cat. No.	Size
Fecal DNA Collection & Preservation Mini Tubes	27650	12 tubes

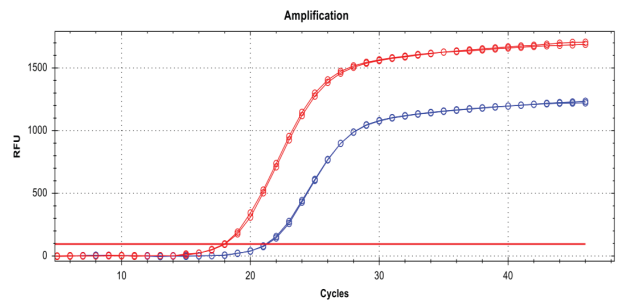


Figure 1. Quality of Mouse Fecal DNA was Evaluated by 16s rDNA Amplification using Real-Time PCR. Two mouse fecal samples (red and blue) were collected and preserved using Norgens Fecal DNA Collection and Preservation Mini Tubes, and then 3 µL of DNA was used in 20 µL PCR reaction to detect 16s rDNA. No PCR inhibition was observed, indicating the high quality of DNA from mouse fecal samples for use in downstream applications.



Urine Collection and Preservation

- RNA/microRNA/DNA/Proteins are preserved for more than 2 years at room temperature in Norgen's Urine Preservative
- Compatible with most DNA, Total RNA, microRNA and protein isolation methods
- Inhibit growth of microbes enabling higher sensitivity isolation of low expressed targets
- The preservative renders the urine sterile (non-infectious) while preserving the integrity of DNA, RNA, exosomes and proteins

Norgen's Urine Preservative is designed for the rapid preservation of DNA, RNA, microRNA and proteins from fresh urine samples. The Urine Preservative prevents the growth of Gram-negative and Gram-positive bacteria and fungi, and also inactivates viruses allowing the resulting non-infectious samples to be handled and shipped safely. Moreover, the buffer preserves exfoliated cells, bacterial cells, and viruses without lysing them. In addition, the Urine Preservative eliminates the need to immediately process or freeze samples and allows the samples to be shipped to centralized testing facilities at ambient temperatures.

Kit Specifications

Specifications	
Urine Input Volume (5 cc tube)	1 - 5 mL
Urine Input Volume (15 cc tube)	5 - 15 mL
Urine Input Volume (50 cc tube)	5 - 45 mL
Urine Input Volume (120 cc cup)	100 - 120 mL
Stability of DNA, RNA, Proteins at Room Temperature	Over 2 years

Ordering Information

Product Name	Cat. No.	Size
Urine Collection and Preservation Tube 5 cc	18118	50 tubes
Urine Collection and Preservation Tube 15 cc	18122	50 tubes
Urine Collection and Preservation Tube 50 cc	18113	50 tubes
Urine Collection and Preservation Cup 120 cc	18129	1 cup
Urine Preservative Single Dose	18126	50 units

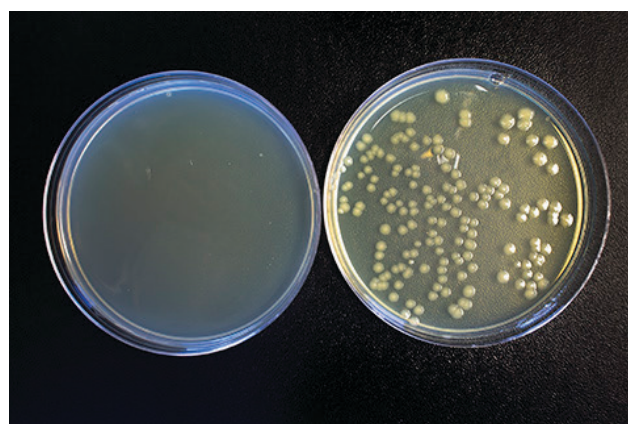


Figure 1. Gram negative bacteria was spiked into urine collected using Norgen's Urine Preservative (9 mL urine and 1 mL urine preservative) and incubated at 37°C for up to 6 days. No viable cells remained at day 6.

4

Sample Collection and Preservation



Swab Collection and DNA Preservation Kit

- Collect from nasal, buccal, saliva, fecal, skin, surfaces, and more
- Completely stabilize microbiota profiles from the point-of-collection
- Minimize bias in data analysis: NGS (Metagenomics/ Microbiome), PCR and microarrays
- No need to immediately process samples: ship and store at ambient temperatures
- Renders sample non-infectious for safe and easy shipping

Norgen's Swab Collection and DNA Preservation System is designed for collection, ambient storage and transport of DNA from samples collected using a swab, including nasal, buccal, saliva, fecal, skin, surfaces, etc. The Swab Collection and DNA Preservation System contains Norgen's Swab Preservative in a liquid format. The Swab Preservative prevents the growth of Gram-negative and Gram-positive bacteria and fungi, and also inactivates viruses allowing the resulting non-infectious samples to be handled and shipped safely. In addition, the Swab Preservative eliminates the need to immediately process or freeze samples and allows the samples to be shipped to centralized testing facilities at ambient temperatures.

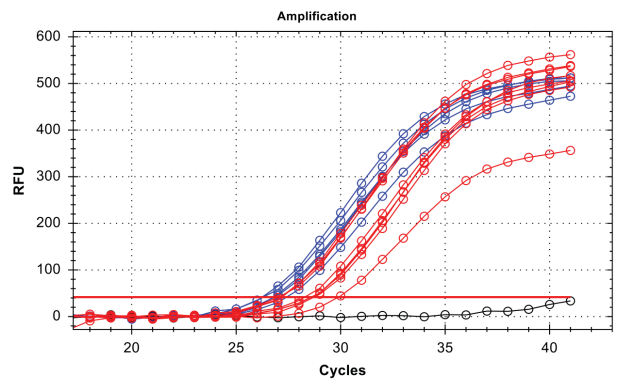
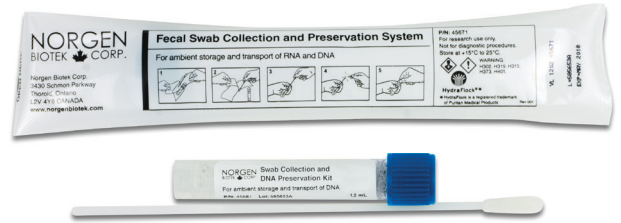


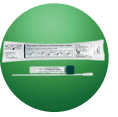
Figure 1. Real Time PCR Amplification of Saliva DNA from the saliva samples stored at room temperature from 1 week up to 75 months (13 time points). All isolated saliva DNA samples were successfully amplified without any sign of PCR inhibition. Blue: Saliva DNA isolated using improved Saliva DNA Isolation Kit (Cat. RU45400). Black: No template control.

Kit Specifications

Specifications	
Volume of Preservative	1.2 mL
Preservation Temperature	Room temperature
Preservation time	2 years at room temperature

Ordering Information

Product Name	Cat. No.	Size
Swab Collection and DNA Preservation Kit	45690	50 units



Fecal Swab Collection and Preservation System

- No need to immediately process samples
- Nucleic acid preservation at room temperature over 2 years for DNA and up to 7 days for RNA
- Ship stool samples at room temperature safely
- Compatible with most DNA/RNA isolation methods

Norgen's Fecal Swab Collection and Preservation System is designed for collection, ambient storage and transport of nucleic acids from stool specimens. The Fecal Swab Collection and Preservation System tubes contain Norgen's Stool Preservative in a liquid format. The user simply collects the specimen using the provided swab, and then transfers the swab into the Stool Preservative. The Stool Preservative prevents the growth of Gram-negative and Gram-positive bacteria and fungi, and also inactivates viruses allowing the resulting non-infectious samples to be handled and shipped safely. In addition, the Stool Preservative eliminates the need to immediately process or freeze samples and allows the samples to be shipped to centralized testing facilities at ambient temperatures. The components of the Stool Preservative allow samples to be stored at room temperature for over 2 years for DNA and 7 days for RNA.

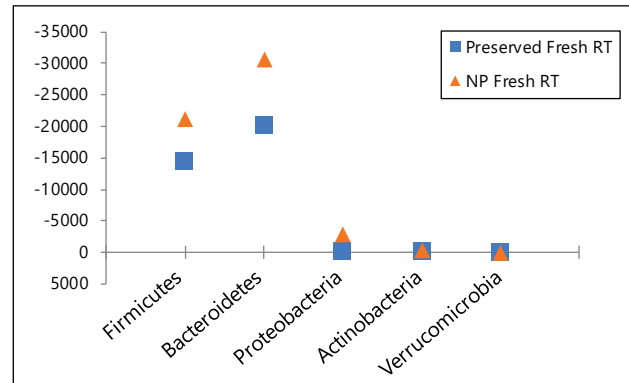
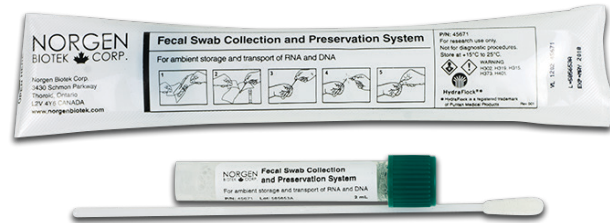


Figure 1. Difference In Top 5 Abundant Microorganisms at Phylum Level Compared to Fresh Stool (Day 0). Abundance of Firmicutes, Bacteroidetes and proteobacteria from the preserved stool sample was higher than non-preserved (NP) compared to the fresh stool after 2 days storage at RT, indicating that the microorganism profiles from the preserved stool are much closer to the fresh stool sample (Day 0).

5

Sample Collection and Preservation

Kit Specifications

Specifications

Stability of Stool Nucleic Acids at Room Temperature

2 years for DNA
Up to 7 days for RNA*

* The RNA stability will be vary depending on the samples

Ordering Information

Product Name	Cat. No.	Size
Fecal Swab Collection and Preservation System	45670	50 devices



Milk DNA Preservation and Isolation Kit

- Milk samples are stable for 1 month at room temperature (or 1 week at 37°C) in the Preservation Solution
- Fast and easy processing using a rapid spin-column format
- DNA can be isolated and detected from as little as 100 µL of milk
- Isolate high quality genomic DNA

Norgen’s Milk DNA Preservation and Isolation Kit is an all-in-one solution designed for 1) preservation of DNA in milk samples at ambient temperature; and 2) isolation of high quality DNA within a laboratory setting. The kit is provided with a Preservation Solution that allows for either immediate processing of milk samples, or allows for the storage of the milk samples for up to 1 month at room temperature prior to DNA isolation. Genomic DNA extracted from somatic cells and bacteria found in milk can be used in various applications. The isolated DNA can be used for the detection of biomarkers to diagnose a disease, follow the diseases progress or monitor the effects of a particular treatment. Milk DNA can also be used to diagnose particular types of infections. Milk DNA purified using Norgen’s kit is of the highest quality, and is compatible with a number of downstream applications including PCR, Southern Blot analysis, sequencing and microarray analysis.

Kit Specifications

Specifications	
Maximum Milk Input	0.5 mL
Time to Complete 10 Purifications	80 minutes (20 minutes hands on)

Ordering Information

Product Name	Cat. No.	Size
Milk DNA Preservation and Isolation Kit	44800	25 preps

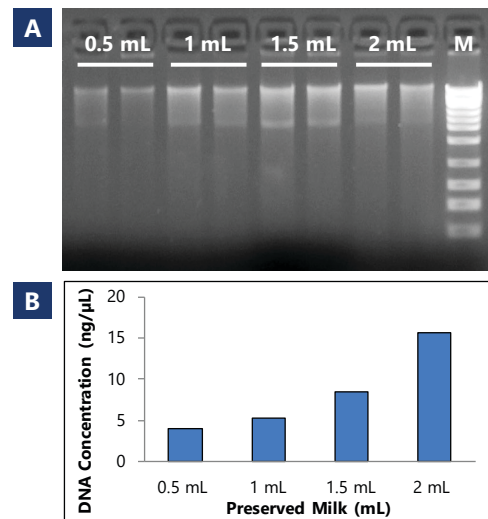


Figure 1. Isolation of DNA From Different Volumes of Preserved Milk (0.5 mL, 1 mL, 1.5 mL and 2 mL) Using Norgen’s Milk DNA Preservation and Isolation Kit. For evaluation, ten microlitres of the isolated 100 µL DNA was loaded on 1.2% agarose gel, and all DNA samples on the gel showed good integrity (A). The correlated DNA yield increase (B) with increasing preserved milk input volumes, along with the gel analysis, indicates that Norgens Milk DNA Preservation and Isolation Kit (Cat. 44800) was able to isolate milk DNA from up to 2 mL preserved milk. Lane M is Norgen’s UltraRanger DNA Ladder (Cat. 12100).



Shipping Accessories - 50 Mailers

- All shipping requirements in one convenient mailer
- Leak-proof biohazard bags with adsorbent pads for enhanced safety
- Matches the standards of OSHA as well as the IATA regulations

Norgen's Shipping Accessories provides a safe and convenient tool for shipping non-infectious biological specimens. The accessories are contained in individual SHIP TO envelopes that are used for shipping of both the accessories as well as the individual sample collection device to the donor/user.

The Biohazard Specimen Bag is a sure-seal zipper bag to hold the collected specimen and protect against accidental spills. The bag contains an absorbent pad that can adsorb up to 4 mL of liquid and meets current labeling requirements of OSHA standard 29CFR1910.1030 regarding biohazard symbols. The Bubble Envelope is used as a RETURN envelope for the donor/user to ship the collected sample back to the lab for analysis. Norgen's Shipping Accessories match the regulations of the International Air Transport Association (IATA).

All shipping requirements in one convenient envelope Leak-proof biohazard bags with adsorbent pads for enhanced safety matches the standards of OSHA as well as the IATA regulations



Shipping Accessories Contents

Specifications	
SHIP TO Envelopes	50
Product Insert	1

SHIP TO Envelope Contents

Specifications	
Biohazard Specimen Bag with Absorbent Pad	1
Bubble Envelope	1
Labels	1
Shipping Instructions	1

Ordering Information

Product Name	Cat. No.	Size
Shipping Accessories	38300	50 mailers

