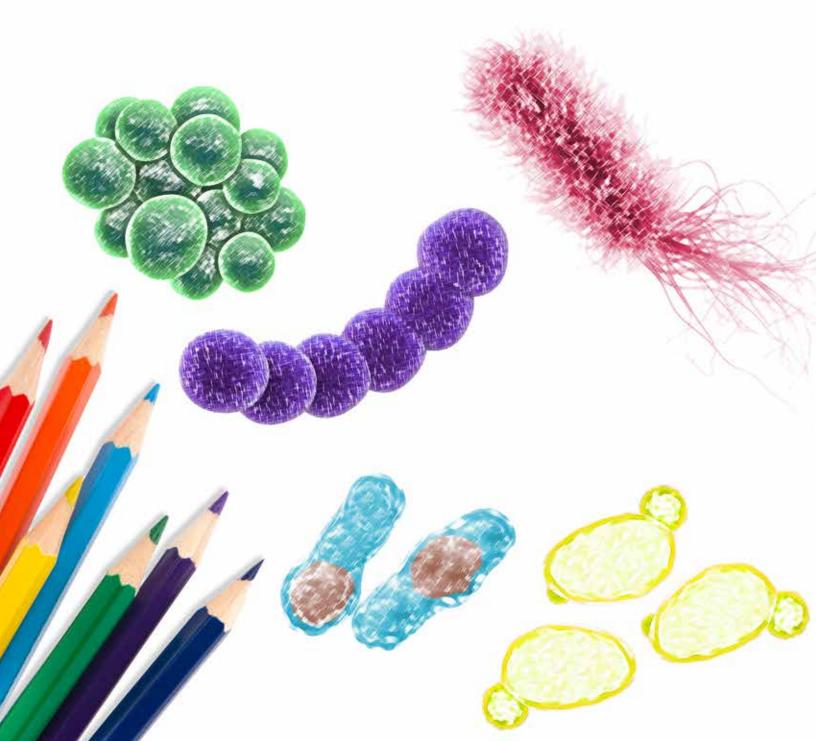




# Microbiomics Made Simple<sup>™</sup>



## **The Complete Microbiome Solution**

### **Sample Collection & Preservation**

DNA/RNA Shield<sup>™</sup> Reagent & Collection Devices Page 2-4





### **Microbiome Standards**

ZymoBIOMICS<sup>™</sup> Microbial Community Standards ZymoBIOMICS<sup>™</sup> HMW DNA Standard ZymoBIOMICS<sup>™</sup> Fecal Reference with TruMatrix<sup>™</sup> Technology ZymoBIOMICS<sup>™</sup> Gut Microbiome Standard ZymoBIOMICS<sup>™</sup> Spike-in Controls **Page 5-8** 

### **Nucleic Acid Extraction**

ZymoBIOMICS<sup>™</sup> DNA Extraction Kits ZymoBIOMICS<sup>™</sup> RNA Miniprep Kit ZymoBIOMICS<sup>™</sup> DNA/RNA Miniprep Kit HostZERO<sup>™</sup> Microbial DNA Kit Quick-DNA<sup>™</sup> HMW MagBead Kit Automated Extraction Page 9-12





### Library Prep, Sequencing Services, & Custom Solutions

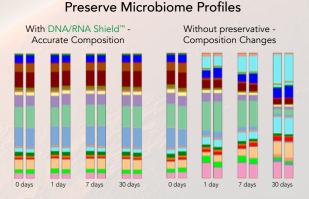
Quick-165<sup>™</sup> Plus NGS Library Prep Kits Quick-ITS<sup>™</sup> Plus NGS Library Prep Kit Quick-16S<sup>™</sup> NGS Library Prep Kit Microbiome Sequencing Services Custom Microbiome Solutions Page 13-15

## **Sample Collection & Cold-Free Preservation**

DNA/RNA Shield<sup>™</sup> preserves the genetic integrity of a sample at time of collection for sensitive down-stream analyses (i.e., Next-Gen Sequencing, RT-PCR, etc.). Any biological sample can be stored in DNA/RNA Shield<sup>™</sup> for transport at ambient temperature, even in the most extreme conditions.

Scientists at NASA are utilizing DNA/RNA Shield<sup>™</sup> to collect biological specimens from astronauts to assess how the human microbiome is affected by a microgravity environment. DNA/RNA Shield<sup>™</sup> serves a vital role in preserving the genetic profiles of their samples in ever-changing and uncontrollable conditions.

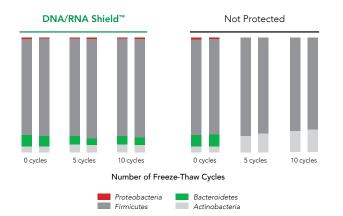




Microbial composition of stool is unchanged after one month at ambient temperature with DNA/RNA Shield<sup>™</sup>. The extracted DNA was subjected to microbial composition profiling via 16S rRNA gene targeted sequencing.

### DNA/RNA Shield™

- Microbiome DNA/RNA Preservation: Preserves genetic integrity and expression profiles of samples at ambient temperatures.
- Safe Transport: Inactivates infectious agents (virus, bacteria, parasites, yeasts).
- **Streamlined Workflow:** DNA and RNA can be isolated directly from preserved samples without lengthy precipitation or reagent removal steps.



#### Prevent the Effects of Freeze-Thaw Cycling

Human stool samples were subjected to 10 freeze-thaw cycles. Samples protected by DNA/RNA Shield<sup>™</sup> preserved their microbial profile while Bacteroidetes and Proteobacteria became undetectable in unprotected samples.

#### Inactivation of Pathogens for Safe Sample Handling

#### Used by Scientists around the world for studying:

Used by Scientists around the world for studying.					
Bacteria	Viruses	Yeast & Eukaryotes			
B. subtilis	SARS-CoV-2	C. albicans			
E. faecalis	Parvovirus	C. neoformans			
E. coli	Chikungunya Virus	S. cerevisiae			
L. fermentum	Dengue Virus	P. malariae			
L. monocytogenes	Ebolavirus				
M. tuberculosis	Herpes Simplex Virus-1				
P. aeruginosa	Herpes Simplex Virus-2				
S. enterica	Influenza A				
S. aureus	Rhinovirus				
S. pneumoniae	MERS-coronavirus				
X. fastidiosa	West Nile Virus				

## Safe Sample Handling



510(k)-Cleared FDA Class II Medical Device



Specimen Preservation Up To 30 Days at Ambient Temperature



Safe Sample Processing Pathogen Inactivation including SARS-CoV-2

Biosafety is an important concern when collecting and processing samples for microbiome research. The inactivation of pathogens such as SARS-CoV-2 is a major consideration as fecal shedding of the virus is frequently detected<sup>1</sup>.

DNA/RNA Shield<sup>™</sup> has been demonstrated to inactivate pathogens, including SARS-CoV-2, Salmonella enterica, and Candida albicans, making microbiome sample collection and processing safer.

## **Collection Devices for Any Sample**



Fecal Collection Wipe Bunny Wipe<sup>™</sup> - Fecal Collection Kit (R1133)



Saliva DNA/RNA Shield<sup>™</sup> SafeCollect Saliva Collection Tube (R1211)



Fecal Collection Tube DNA/RNA Shield<sup>™</sup> Fecal Collection Tube (R1101)



FubeSwablection TubeDNA/RNA Shield™ SafeCollect Swab Collection<br/>Tube (R1160)



**Urine** Urine Collection Kit (D3062)



Sample Lysis DNA/RNA Shield<sup>™</sup> Lysis Tubes (R1103)

 Jones, D. L., Baluja, M. Q., Graham, D. W., Corbishley, A., McDonald, J. E., Malham, S. K., ... & Farkas, K. (2020). Shedding of SARS-CoV-2 in feces and urine and its potential role in person-to-person transmission and the environmentbased spread of COVID-19. Science of the Total Environment, 749, 141364.

## SafeCollect<sup>™</sup> At-Home Sample Collection Devices



Unparalleled User Safety (No Spill)

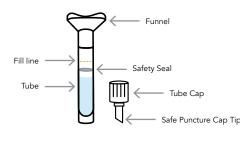


Room Temperature Shipping & Storage



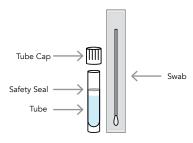
Automation-Ready for High-Throughput Sample Processing

#### Available in Multiple Formats



#### SafeCollect<sup>™</sup> Saliva Collection Kit

- $\checkmark$  Funnel included for the collection of saliva and other liquid samples
- $\checkmark$  SafePuncture cap pierces the safety seal, releasing the reagent
- ✓ Prefilled with 2ml of DNA/RNA Shield<sup>™</sup> (R1211)



#### SafeCollect<sup>™</sup> Swab Collection Kit

- $\checkmark$   $\;$  Swab included for the collection of throat, nasal, fecal, skin, and surface samples
- $\checkmark$  Self-centering cap retains the swab during the decapping process
- ✓ Prefilled with DNA/RNA Shield<sup>™</sup> (1ml: R1160; 2ml: R1161)

Product	Cat. No.	Size
DNA/RNA Shield™	R1100-50 R1100-250	50 ml 250 ml
Bunny Wipe - Fecal Collection Kit	R1133	1 Collection Kit
DNA/RNA Shield™ - Lysis Tube (Microbe)	R1103	50 pack
DNA/RNA Shield™ - Lysis Tube (Microbe) with Swab	R1104	50 tubes/50 swabs
DNA/RNA Shield™ Collection Tube w/Swab	R1106 R1107 R1108 R1109	10 pack (1 ml fill) 50 pack (1 ml fill) 10 pack (2 ml fill) 50 pack (2 ml fill)
DNA/RNA Shield™ Collection Tube w/ Swab - DX	R1107-E R1109-E	50 pack (1 ml fill) 50 pack (2 mil fill)
DNA/RNA Shield <sup>™</sup> - Fecal Collection Tube	R1101	10 pack
DNA/RNA Shield™ Fecal Collection Tube - DX	R1101-E	10 pack
DNA/RNA Shield <sup>™</sup> Saliva Collection Kit	R1210	1 x 2 ml fill
DNA/RNA Shield SafeCollect <sup>™</sup> Saliva Collection Kit	R1211/R1211-E	1 Collection Kit
DNA/RNA Shield SafeCollect <sup>™</sup> Swab Collection Kit	R1160/R1160-E R1161/R1161-E	1 Collection Kit 1 Collection Kit

## **Microbiome Quality Control & Standardization**

Precise Composition for Reproducible Data

The ZymoBIOMICS<sup>™</sup> Microbial Community Standard is comprised of eight bacterial and two fungal species, representing a wide range of cell wall toughness.

Researchers used the ZymoBIOMICS<sup>™</sup> Microbial Community Standard to ensure accurate and unbiased microbial profiling of various points during the sanitization process at the world's largest water reclamation facility<sup>1</sup>.

%		Species	Gram Stain	gDNA Abun. (%)
%-		Pseudomonas aeruginosa	-	12
%-		Escherichia coli	-	12
%-	_	Salmonella enterica	-	12
6-		Lactobacillus fermentum	+	12
6-		Enterococcus faecalis	+	12
6-		Staphylococcus aureus	+	12
		Listeria monocytogenes	+	12
6-		<ul> <li>Bacillus subtilis</li> </ul>	+	12
6-		<ul> <li>Saccharomyces cerevisiae</li> </ul>	Yeast	2
6 Theoretical	Measured	<ul> <li>Cryptococcus neoformans</li> </ul>	Yeast	2

The ZymoBIOMICS<sup>™</sup> Microbial Community Standard contains three easy-to-lyse bacteria, five tough-to-lyse bacteria, and two tough-to-lyse yeasts.

The ZymoBIOMICS<sup>™</sup> standards are the most cited mock community standards. With nine different standards and controls available, careful consideration should be taken when choosing the best match for your workflow.



Scan to Read the App Note: How to Choose a Microbiome Standard www.zymoresearch.com/blogs/blog/how-to-choose-a-microbiome-standard

Category	Suggested Applications		
Mock Community Microbial Cell Standards	<ul><li>Optimization and benchmarking</li><li>Positive control for microbial lysis</li></ul>		
Mock Community DNA Standards	• Optimization and positive controls for library preparation & bioinformatics		
True Diversity Reference	<ul> <li>Assess taxonomic assignment and bioinformatics</li> <li>Enable inter-lab and inter-study data comparisons</li> </ul>		
Spike-In Controls	<ul><li>Individual sample control</li><li>Absolute quantification</li></ul>		

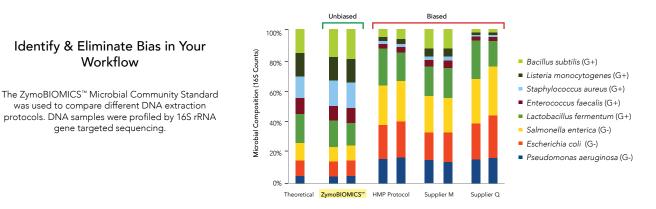
## **Ensure Accurate Microbial Profiling**

### ZymoBIOMICS<sup>™</sup> Microbial Community Standard

- Accurate composition: composition cross-validated using multiple types of measurements. •
- Assessing bias in DNA isolation: containing microbes of varying size and cell wall toughness (8 bacteria and 2 yeasts).
- Microbiomics QC: Ideal for a complete microbiome workflow quality control.

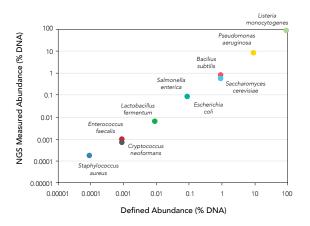
Workflow

gene targeted sequencing.



### ZymoBIOMICS<sup>™</sup> Microbial Community Standard II

- Log abundance distribution: assess detection limit over a broad range (10<sup>2</sup> to 10<sup>8</sup> cells).
- Accurate Composition: cross-validated with multiple measurements.
- Microbiomics QC: Quality control for microbiome profiling and pathogen identification.



### **Determine Workflow Detection Limits**

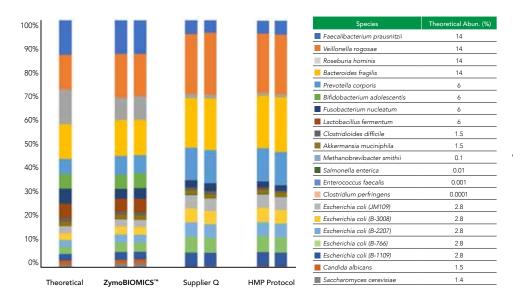
The ZymoBIOMICS<sup>™</sup> Microbial Community Standard II contains a log distributed abundance of microbes. It can help determine the detection limit of a microbe in a community.

Product	Cat. No.	Size
ZymoBIOMICS™ Microbial Community Standard	D6300	10 preps
ZymoBIOMICS™ Microbial Community DNA Standards	D6305 D6306	200 ng 2,000 ng
ZymoBIOMICS <sup>™</sup> Microbial Community Standard II (Log Distribution)	D6310	10 preps
ZymoBIOMICS <sup>™</sup> Microbial Community DNA Standard II (Log Distribution)	D6311	220 ng
ZymoBIOMICS™ HMW DNA Standards	D6322	5,000 ng

## **Quality Controls for Gut Microbiome Analysis**

### ZymoBIOMICS<sup>™</sup> Gut Microbiome Standard

- True to Life: Comprised of 21 different strains to mimic the human gut microbiome.
- Accurate Composition: Allows for benchmarking and validation of NGS microbiome workflows .
- Cross Kingdom Representation: Includes Bacteria, Fungi, and Archaea.

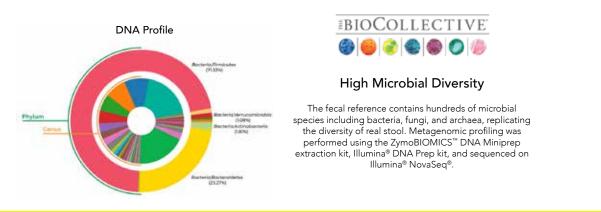


#### Optimize Microbiome Analysis of The Gut

The ZymoBIOMICS<sup>™</sup> Gut Microbiome Standard consists of a mix of hard-to-lyse bacteria, easy-to-lyse bacteria, two yeasts and an archaea species in ratios mimicking the human gut microbiome. The standard was used to compare different DNA extraction protocols. The resulting DNA was profiled using metagenomic shotgun sequencing.

## ZymoBIOMICS<sup>™</sup> Fecal Reference with TruMatrix<sup>™</sup> Technology

- Real-Life Representation: A microbiome quality control made from real human fecal material preserved in DNA/RNA Shield<sup>™</sup>.
- **Consistent:** Two million uniform preps available to act as a reliable, single point of reference for all microbiome researchers.
- Well-Characterized: Deeply sequenced using targeted, metagenomic, and metatranscriptomic sequencing.

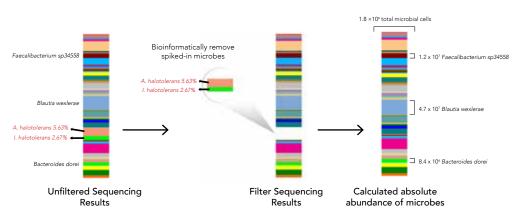


Product	Cat. No.	Size
ZymoBIOMICS <sup>™</sup> Gut Microbiome Standard	D6331	10 preps
ZymoBIOMICS <sup>™</sup> Fecal Reference with TruMatrix <sup>™</sup> Technology	D6323	10 preps

## **Spike-in Controls for Absolute Quantification**

### ZymoBIOMICS<sup>™</sup> Spike-in Control I (High Microbial Load)

- Absolute Quantification: Enables cell number measurements using Next-Gen Sequencing.
- In situ Quality Control: Ensures each sample is quantified accurately.
- Unique composition: Comprised of two microbes not found in the human microbiome.

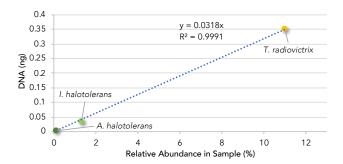


#### Quantify Absolute Abundance of Microbes

The ZymoBIOMICS<sup>™</sup> Spike-in Control I was added to a fecal sample. The sample was analyzed by 16S sequencing. The composition percentage of *Imtechella halotolerans* and *Allobacillus halotolerans* was then calculated. Using this percentage and the known input of cells spiked into the sample, the absolute abundance is calculated for the organisms originally present.

## ZymoBIOMICS<sup>™</sup> Spike-in Control II (Low Microbial Load)

- Absolute Quantification: Enables cell number measurements from low bacterial load samples using Next-Gen Sequencing.
- In situ Quality Control: Ensures individual samples are quantified accurately.
- Log Abundance Distribution: Three microbes not found in the human microbiome in log-distribution from 10<sup>3</sup> to 10<sup>5</sup> cells.



#### Spike-in a Standard Curve

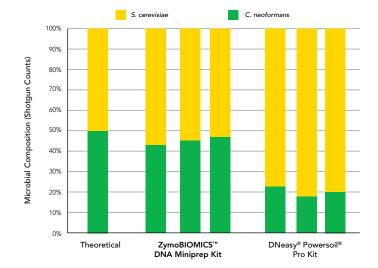
Once spiked into a sample and analyzed by NGS, the log distribution of the three species creates a standard curve which is used to accurately calculate the absolute abundance of the sample's microbiome.

Product	Cat. No.	Size
ZymoBIOMICS <sup>™</sup> Spike-in Control I (High Microbial Load)	D6320 D6320-10	25 preps 250 preps
ZymoBIOMICS <sup>™</sup> Spike-in Control II (Low Microbial Load)	D6321 D6321-10	25 preps 250 preps

## **Unbiased DNA Purification from Any Sample**

### ZymoBIOMICS<sup>™</sup> DNA Extraction Kits (feces, soil, swabs, water, biofilms, body fluids, etc.)

- Validated Unbiased for Microbiome Measurements: Unbiased cellular lysis validated using the ZymoBIOMICS<sup>™</sup> Microbial Community Standard.
- Inhibitor-Free DNA from Any Sample: Isolate ultra-pure DNA ready for any downstream application.
- Certified Low Bioburden: Boost your detection limit for low abundance microbes.



#### Extract DNA from the Toughest Microbes

The ZymoBIOMICS<sup>™</sup> DNA Miniprep kit effectively lyses both fungal species in the ZymoBIOMICS<sup>™</sup> Microbial Community Standard, while the DNeasy<sup>®</sup> PowerSoil<sup>®</sup> Pro kit failed to effectively lyse *Cryptococcus neoformans.* Data was generated with shotgun metagenomic sequencing.

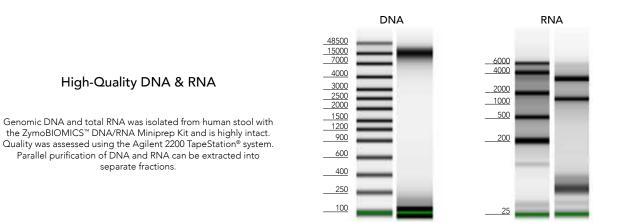


Product	Cat. No.	Size
ZymoBIOMICS™ DNA Miniprep Kit	D4300	50 preps
ZymoBIOMICS™ DNA Microprep Kit	D4301	50 preps
ZymoBIOMICS <sup>™</sup> 96 DNA Kit (includes ZR BashingBead <sup>™</sup> Lysis Rack)	D4303	2 x 96 preps
ZymoBIOMICS™ 96 DNA Kit (includes ZR BashingBead™ Lysis Tubes)	D4309	2 x 96 preps

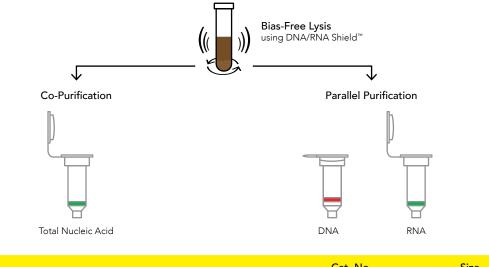
## **Ultra-Pure Microbial DNA/RNA Co-Purification**

## ZymoBIOMICS<sup>™</sup> DNA/RNA Miniprep Kit

- **Unbiased Lysis:** Efficient and unbiased lysis of microbes including Gram-positive/negative bacteria, fungi, protozoans, and viruses from any sample.
- Ultra-Pure: DNA/RNA (including small/micro RNAs) is inhibitor-free and ready for qPCR and microbiome measurements using Next-Gen Sequencing.
- High Sensitivity: Increased detection limit of very low abundance organisms.



Purify DNA & RNA in Single Or Separate Fractions Without Splitting Samples

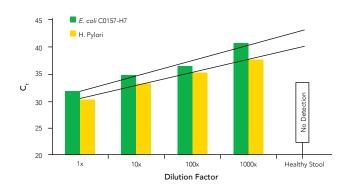


Product	Cat. No.	Size
ZymoBIOMICS <sup>™</sup> RNA Miniprep Kit	R2001	50 preps
ZymoBIOMICS™ DNA/RNA Miniprep Kit	R2002	50 preps

## Automated Nucleic Acid Extraction for High-Throughput Microbiomics Applications

## ZymoBIOMICS<sup>™</sup> 96 MagBead DNA Kit

- High throughput purification of high quality, inhibitor-free DNA from any sample including feces, soil, water, biofilms, swabs, saliva, and body fluids.
- This ZymoBIOMICS<sup>™</sup> innovative lysis system enables efficient and unbiased lysis of microbes including Gram positive/negative bacteria, fungi, protozoans, algae, etc.
- The automation friendly workflow enables nearly any sample to be processed in as little as 90 minutes for 96 preps.

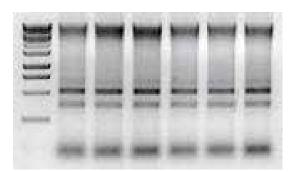


#### Linear Recovery With Unparalleled Sensitivity

The ZymoBIOMICS<sup>™</sup> 96 Magbead DNA Kit produces linear recovery of DNA for sensitive applications, detecting pathogenic organisms such as *E. coli* and *H. pylori* in assays with up to a 1000x dilution factor. A dilution series was created using stool infected with 1 x 10° shiga-toxin producing *E. coli* O157:H7 cells and stool infected with *H. pylori* cells. These stool samples were then extracted using the ZymoBIOMICS<sup>™</sup> 96 Magbead DNA Kit, showing effective purification and qPCR amplification, even at 1000:1 dilution. N=8

## ZymoBIOMICS<sup>™</sup> MagBead DNA/RNA

- Efficient, unbiased lysis of microbes including gram positive/negative bacteria, fungi, protozoans, and viruses from any sample including feces, soil, plant, water, biofilms, swabs, saliva, body fluids, etc.
- High-throughput, magnetic bead-based purification of high-quality DNA/RNA (including small/microRNAs) that is inhibitor-free and ready for RT/qPCR and microbiome measurements using Next-Gen sequencing.
- High-sensitivity and increased detection limit of very low abundance organisms.



### High Quality DNA and RNA

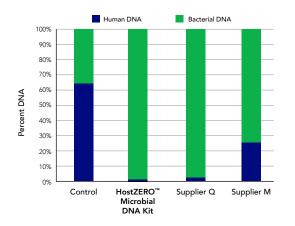
DNA & RNA from human stool are high quality using the ZymoBIOMICS<sup>™</sup> MagBead DNA/RNA kit. Final eluate were analyzed on a 1% TAE/agarose gel, 1 KB DNA ladder (Zymo Research).

Product	Cat. No.	Size
ZymoBIOMICS <sup>™</sup> 96 MagBead DNA Kit (includes ZR BashingBead <sup>™</sup> Lysis Tubes)	D4308	2 x 96 preps
ZymoBIOMICS <sup>™</sup> 96 MagBead DNA Kit (includes ZR BashingBead <sup>™</sup> Lysis Rack)	D4302	2 x 96 preps
ZymoBIOMICS <sup>™</sup> MagBead DNA/RNA	R2135 R2136	1 x 96 preps 4 x 96 preps
ZymoBIOMICS <sup>™</sup> MagBead RNA	R2137 R2138	1 x 96 preps 4 x 96 preps

## Simple Depletion of Host DNA

### HostZERO<sup>™</sup> Microbial DNA Kit

- Efficient Depletion of Host DNA: ≥90% depletion in applicable sample types.
- **Preserves Microbial DNA:** ≥85% recovery of microbial DNA and minimum impact on microbiome profile.
- Simple and Fast: Only 30 minutes of hands-on time.



#### Ensure the Best Depletion of Host DNA

The HostZERO<sup>™</sup> Microbial DNA Kit depletes host DNA. The same human saliva sample was processed using the HostZERO<sup>™</sup> Microbial DNA Kit or kits from Suppliers Q and M. Triplicate samples of purified DNA were evaluated by Real-time PCR. The composition of the DNA is shown in terms of relative bacterial and human DNA abundance. The control sample was processed with the ZymoBIOMICS<sup>™</sup> DNA Microprep Kit, which extracts total DNA from the sample without host DNA depletion.

## **High Molecular Weight DNA**

### Quick-DNA<sup>™</sup> HMW MagBead Kit

- Third-Generation Sequencing Ready: Optimized for long read sequencing assays.
- High Quality HMW DNA: Extract high molecular weight DNA > 100 kb size from any sample type.
- Unmatched Recovery: Highest DNA yield and purity.

bp	HeLa Cells	Human Blood	Human Saliva	Mouse Gut	Human Feces	ZymoBIOMICS™ Standards
48500 15000 7000						
4000 3000						
2000 1500 1200 900 600	-					
400 50 100			_			

#### Obtain High Quality HMW DNA from Any Sample Type

The Quick-DNA<sup>™</sup> HMW MagBead Kit was used to extract high molecular weight DNA from a variety of samples including human feces and the ZymoBIOMICS<sup>™</sup> Microbial Community Standard. Quality was assessed using Agilent 2200 TapeStation®.

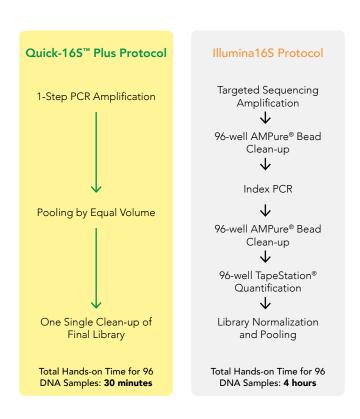
Product	Cat. No.	Size
HostZERO™ Microbial DNA Kit	D4310	50 preps
Quick-DNA™ HMW MagBead Kit	D6060	96 preps

## The Easiest 165 & ITS Library Preps Ever

### Quick-16S<sup>™</sup> Plus NGS Library Prep Kit (V3-V4)

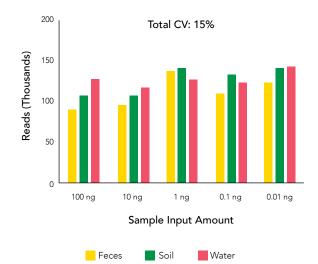
- The most streamlined NGS kit with only 30 minutes of hands-on time for 96 samples.
- 100% automation ready with only a single PCR step and no normalization needed.
- Real-time PCR enables absolute microbial copy number quantification.

Fastest 16S Workflow



The Quick-165<sup>™</sup> Plus workflow versus the Illumina® 16S Protocol. Total hands-on time calculations are based on the preparation of 96 DNA samples.

#### Normalization Free



The Quick-165<sup>™</sup> Plus NGS Library Prep Kit (V3-V4) results in similar amounts of reads across different input amounts. 0.01-100 ng fecal, soil, and water DNA were used as inputs. Libraries were pooled by equal volumes (2 µl each) without further normalization and sequenced using MiSeq<sup>®</sup> Reagent Kit v3 (600-cycle). The CV (coefficient of variation) is the ratio of the standard deviation to the mean with lower values corresponding to less dispersion around the mean.

Product	Cat. No.	Size
<i>Quick</i> -16S <sup>™</sup> Plus NGS Library Prep Kit (V3-V4)	D6420 D6422	96 rxns 24 rxns
<i>Quick</i> -16S <sup>™</sup> Plus NGS Library Prep Kit (V4)	D6430 D6432	96 rxns 384 rxns
<i>Quick</i> -ITS™ Plus NGS Library Prep Kit	D6424 D6426	96 rxns 24 rxns
<i>Quick</i> -16S <sup>™</sup> NGS Library Prep Kit	D6400 D6410	96 rxns 24 rxns

## **Comprehensive Microbiome Sequencing Services**



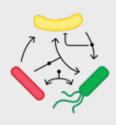
**Amplicon Sequencing** 

Species-level resolution for bacteria and fungi, targeting regions of 16S, 18S & ITS.



Shotgun Metagenomic Sequencing

Multiple kingdom identification & functional profiling with industryleading sensitivity & precision.



Metatranscriptomic Sequencing

Microbiome gene expression analysis.



Custom Solutions for Industry Partners

Our microbiome analysis services can be customized to meet the individual needs of your application.



### **Potential Industries & Applications**

#### End-to-End Microbiome Sequencing Services Include:

- Quick Turnaround Times
- Unmatched Data Quality
- Industry-Leading Taxonomic Resolution
- ✓ Comprehensive Bioinformatics Analysis



Visit **www.zymoresearch.com/pages/zymobiomic-services** for a custom microbiome services quote.

## **Custom Microbiome Solutions**

In addition to being a premier biotechnology manufacturer, Zymo Research is a global, vertically integrated, research driven company. We are your innovation partner motivated to collaborate with you to create your custom contract manufacturing solutions. Whether it's sample preservation, nucleic acid extraction, microbiome analysis, or entire custom workflows, Zymo Research experts work closely with you to facilitate your custom manufacturing needs and bring your vision to life.





#### **Custom At-Home Sample Collection Kits**

- Collection and transportation media for any sample (swab, saliva, fecal, blood etc.)
- Custom labeling & barcoding
- Custom design, kitting and packaging
- Additional components available (gloves, IFU, biohazard bags, return labels)

#### Barcoded, High-Throughput Sample Tracking

- End-to-end sample tracking
- Automatable microbiome DNA & RNA extraction



#### Tailor-Made NGS Services

- Targeted and Shotgun Metagenomic Sequencing
- Customized Bioinformatics and Data Reporting
- Automated Nucleic Acid Extraction



Learn more and inquire about custom microbiome solutions at www.zymoresearch.com/pages/custom-manufacturing-solutions

## **Custom Microbiome Data Reporting**



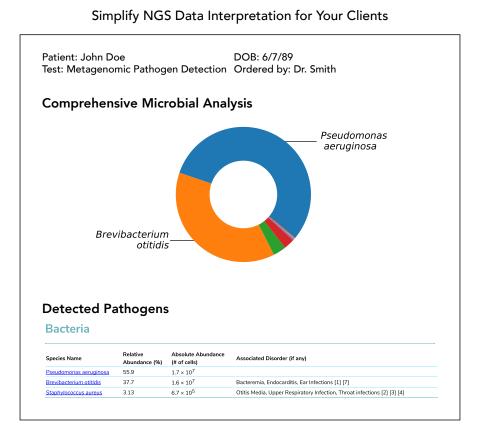
Automatically Generated Plots



**Customizable Data Reports** 



Report Pathogens, Antibiotic Resistance, etc.





Learn more and inquire about custom microbiome solutions at **www.zymoresearch.com/pages/custom-manufacturing-solutions** 

## **Microbiome Products**

### Sample Collection & Storage

Product	Cat. No.	Size
DNA/RNA Shield™	R1100-50 R1100-250	50 ml 250 ml
DNA/RNA Shield™ - Lysis Tube (Microbe)	R1103	50 pack
DNA/RNA Shield™ - Lysis Tube (Microbe) with Swab	R1104	50 tubes/50 swabs
DNA/RNA Shield™ Collection Tube w/Swab	R1106 R1107 R1108 R1109	10 pack (1 ml fill) 50 pack (1 ml fill) 10 pack (2 ml fill) 50 pack (2 ml fill)
DNA/RNA Shield <sup>™</sup> Collection Tube w/ Swab - DX	R1107-E R1109-E	50 pack (1 ml fill) 50 pack (2 mil fill)
Bunny Wipe - Fecal Collection Kit	R1133	1 Collection Kit
DNA/RNA Shield™ - Fecal Collection Tube	R1101	10 pack
DNA/RNA Shield™ Fecal Collection Tube - DX	R1101-E	10 pack
DNA/RNA Shield™ Saliva Collection Kit	R1210	1 x 2 ml fill
DNA/RNA Shield SafeCollect <sup>™</sup> Saliva Collection Kit	R1211 R1211-E	1 Collection Kit 1 Collection Kit
DNA/RNA Shield SafeCollect™ Swab Collection Kit	R1160 R1160-E R1161 R1161-E	1 Collection Kit 1 Collection Kit 1 Collection Kit 1 Collection Kit

### **Microbiome Standards**

Product	Cat. No.	Size
ZymoBIOMICS™ Microbial Community Standard	D6300	10 preps
ZymoBIOMICS™ Microbial Community DNA Standards	D6305 D6306	200 ng 2,000 ng
ZymoBIOMICS™ Microbial Community Standard II (Log Distribution)	D6310	10 preps
ZymoBIOMICS™ Microbial Community DNA Standard II (Log Distribution)	D6311	220 ng
ZymoBIOMICS™ HMW DNA Standards	D6322	5,000 ng
ZymoBIOMICS <sup>™</sup> Fecal Reference with TruMatrix <sup>™</sup> Technology	D6323	10 preps
ZymoBIOMICS <sup>™</sup> Gut Microbiome Standard	D6331	10 preps
ZymoBIOMICS <sup>™</sup> Spike-in Control I (High Microbial Load)	D6320 D6320-10	25 preps 250 preps
ZymoBIOMICS <sup>™</sup> Spike-in Control II (Low Microbial Load)	D6321 D6321-10	25 preps 250 preps

### **Nucleic Acid Extraction**

Product	Cat. No.	Size
ZymoBIOMICS™ DNA Miniprep Kit	D4300	50 preps
ZymoBIOMICS <sup>™</sup> DNA Microprep Kit	D4301	50 preps
ZymoBIOMICS <sup>™</sup> RNA Miniprep Kit	R2001	50 preps
ZymoBIOMICS <sup>™</sup> DNA/RNA Miniprep Kit	R2002	50 preps
ZymoBIOMICS <sup>™</sup> 96 DNA Kit (includes ZR BashingBead <sup>™</sup> Lysis Rack)	D4303	2 x 96 preps
ZymoBIOMICS <sup>™</sup> 96 DNA Kit (includes ZR BashingBead <sup>™</sup> Lysis Tubes)	D4309	2 x 96 preps
ZymoBIOMICS <sup>™</sup> 96 MagBead DNA Kit (includes ZR BashingBead <sup>™</sup> Lysis Tubes)	D4308	2 x 96 preps
ZymoBIOMICS <sup>™</sup> 96 MagBead DNA Kit (includes ZR BashingBead <sup>™</sup> Lysis Rack)	D4302	2 x 96 preps
ZymoBIOMICS <sup>™</sup> MagBead DNA/RNA	R2135 R2136	1 x 96 preps 4 x 96 preps
ZymoBIOMICS <sup>™</sup> MagBead RNA	R2137 R2138	1 x 96 preps 4 x 96 preps
<i>Quick-</i> DNA <sup>™</sup> HMW MagBead Kit	D6060	96 preps
HostZERO™ Microbial DNA Kit	D4310	50 preps

### Library Prep

Product	Cat. No.	Size
<i>Quick</i> -16S <sup>™</sup> Plus NGS Library Prep Kit (V3-V4)	D6420 D6422	96 rxns 24 rxns
Quick-16S <sup>™</sup> Plus NGS Library Prep Kit (V4)	D6430 D6432	96 rxns 384 rxns
<i>Quick</i> -ITS™ Plus NGS Library Prep Kit	D6424 D6426	96 rxns 24 rxns
<i>Quick</i> -16S <sup>™</sup> NGS Library Prep Kit	D6400 D6410	96 rxns 24 rxns



Cat. No. B1007 Version 06

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