

Sample Preparation for DNA Isolation

General Information

- For >24 samples, the use of barcoded tubes is required; for smaller quantities, it remains an option. Please send an email to isolation.support@microsynth.ch with "barcodes" in the subject line and indicate the quantity of barcodes, (1 barcode / plate or tube), the quotation number of your project and the full destination address.

Important:

- Use only the specified buffers or the isolation will fail.
- Be sure to thoroughly **homogenize** your sample (for microbiome analysis) or select a representative sample (e.g. tissue) before aliquoting the required amount.
- Additional services** such as subsampling, special handling, method development and more are available at additional cost.

Sample Preparation for Amplicon Metagenomics DNA Isolation

The microbiome is dynamically changing and must be well preserved. To avoid altering the bacterial/fungal/archaeal content of your sample, make sure to aliquot a representative homogenate and send it to us either frozen on dry ice or with the listed preservation buffer.

Send your samples in 2 ml skirted screw cap tubes.

Feces:

Species	Raw Feces Send on Dry Ice	Sample Mixed with Preservation Buffer Send at Ambient Temperature	
		Stool Preservation (1)	DNA/RNA Shield (2)
Mouse	25 – 100 mg (4-10 mouse fecal pellets)	250 µl	750 µl
Rat	50 – 150 mg (1 rat fecal pellet weighs about 100 – 300 mg. If the pellet is big, only submit one half)	250 µl	750 µl
Human	100 – 200 mg	250 µl	750 µl
Subsampling (at surcharge)			
Mouse, rat, human		1 – 2 ml or whole stool preservation tube	

(1) NorgenBiotek Fecal DNA collection and preservation tubes or DNAGenotek OMNIgene gut: follow manufacturer's instructions.

(2) ZymoResearch #R1100, follow manufacturer's instructions.

Prevent urine contamination of the collected feces samples.

Soil, Biofilm & Water:

Sample Type	No Buffer Send on Dry Ice	Sample Mixed with Preservation Buffer Send at Ambient Temperature DNA/RNA Shield (1)
Garden soil, forest soil (2)	200 mg	750 µl
Mixed cell cultures, biofilms, sludge	5 – 25 mg wet weight	750 µl
Water or any filtered liquid	1 filter of 2 cm ² (3)	750 µl (make sure filter is submerged completely) (2)
Subsampling (at surcharge)		
Soil	1 – 2 g	N/A
Sandy soil	5 – 10 g	N/A
Water	5 – 50 ml	N/A

(1) ZymoResearch #R1100, follow manufacturer's instructions.

(2) Soil must have a suitably high microbe count. Optimal for normal garden or forest soil (loam, peat, low silt content). Soils with a high amount of inorganic material (clay, high silt, sand) will result in low DNA concentrations and are not recommended for submission.

(3) Place the filters with the microbe-containing side facing inward (the bottom of the filters will stick to the wall of the tube) or cut the filters into small pieces that will float freely after buffer addition.

For other microbiome samples (e.g., skin swabs, insect gut microbiomes, tumor microbiomes), low raw sample amounts, or treatments that result in low microbiome counts (e.g., antibiotics), please contact your sales representative for a personalized quote.

Sample Preparation for DNA Isolation for Illumina Resequencing**Standard Host-DNA Isolation for Resequencing**

Send your sample in barcoded 2 ml skirted screw cap tubes.

Cell Pellets

Collect the required amount of cells and wash the pellet twice in PBS or other suitable buffer.

Sample Type	No Buffer Send on Dry Ice	In 70 – 90% Ethanol Send at Ambient Temperature
Single strain bacterial cell pellet (1)	0.5 x 10 ⁸ – 4 x 10 ⁹ cells	0.5 – 1 ml
Eukaryotic cell line pellet	1 – 5 x 10 ⁶ cells	0.5 – 1 ml
Yeast cell pellet (1)	5 x 10 ⁷ – 2 x 10 ⁸ cells	0.5 – 1 ml

(1) If you cannot count your cells, submit 10-50 mg wet weight pellet (equivalent to approximately 8-10 mL of early stationary phase culture) or a well visible pellet approximately 4 mm in diameter in a 2 mL tube.

Insects

Collect the required amount of insects, make sure they are no longer viable, and ship under the following conditions. For larger insects that will fill > ½ of a 2 ml tube, please contact your sales representative.

Single Species		Shipment without Preservation Buffer		Shipment in 70 – 90% Ethanol
		Native State (Dead)	Lyophilized / Dried	
Invertebrates small (< 10 mm)	As many as necessary to reach ca. 300 µl volume. Species > 5 mm = ca. 3-5 individuals	On dry ice	Ambient temperature	0.5 – 1 ml
Invertebrates big (10 – 20 mm)	One per tube	On dry ice	Ambient temperature	0.5 – 1 ml

Vertebrate Tissue

Cut tissue samples into pieces no larger than 0.5 cm in any dimension. Larger pieces will prevent the preservation buffer from diffusing into the tissue quickly enough, resulting in DNA degradation. Be sure to completely submerge the sample in preservation buffer.

A 3 mm (= 27 mm³) cube of most tissues weighs approximately 30 - 35 mg.

- Ear punch
- Embryo
- Fish fin
- Heart
- Kidney
- Liver
- Lung
- Mouse tail tip (1.2 cm)
- Muscle
- Rat tail tip (0.6 cm)
- Spleen
- Thymus
- Tissue homogenate (mixed tissue)

Not suitable for: reptile skin, swabs

Sample Type	Amount	No Buffer	DNA/RNA Shield (1)	In 70 – 90% Ethanol
Any soft tissue listed above	20 – 50 mg	Send on dry ice	0.5 ml	0.5 – 1 ml

(1) ZymoResearch #R1100, follow manufacturer's instructions.

Order Form Completion

Prior to shipping your samples for isolation to Microsynth, please follow these steps to complete your order form:

1. For 24 samples or more, order sample tracking barcodes (see General Information).
2. Enter our webshop at <https://srvweb.microsynth.ch/>.
3. When registering your samples, chose "Material for Isolation" in the dropdown list of "what do you provide?" and fill in all relevant information.
4. Prepare your samples according to this User Guide.
5. Send your samples together with the order printout and according to the listed conditions to Microsynth AG.

Shipping Address:

Microsynth AG
 3.3 DNA/RNA Isolation
 Schützenstrasse 15
 9436 Balgach
 Switzerland

Need More Information?

Microsynth AG

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