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Novogene Extraction Service Guidelines

Sample requirements for DNA extraction

Sample Source	Standard Amount	Special Amount for Several Products	Buffer/Status	Recommended Shipping Method	Notes
Cell pellet	⩾1 M cells	–	Snap frozen	Dry ice	–
Whole blood	⩾1 mL	⩾2 mL for RRBS	Blood collection tube with EDTA as anticoagulant	Dry ice	1. Every tube should be individually packaged with sufficient dry ice. 2. All tubes should be separated. 3. Any damage or liquid overflow should not be allowed. 4. Seal the tubes well to avoid leakage due to tube damage. 5. Prepare for vibration-absorption. 6. Anticoagulant is required to prevent DNA degradation caused by blood coagulation.
Fresh animal tissue	⩾400 mg	–	Snap frozen	Dry ice	–
Fresh plant tissue	⩾400 mg	–	Snap frozen	Dry ice	–
FFPE slides (for human WGS/ WES/ TRS projects only)	⩾10 slides	–	–	Room temperature/ Blue ice	Thickness: 5~10 um; Area: >1 cm^2
FFPE curls (for human WGS/ WES/ TRS projects only)	2-4 curls	–	–	Room temperature/ Blue ice	Curls: 2-4 curls per eppendorf tube
Saliva (for human/animal projects only)	⩾4 mL	–	Snap frozen	Dry ice	Collected in 10 mL cryogenic storage tube
Buccal Swab (for human/animal projects only)	⩾3 swaps	–	–	Dry ice	Package in buccal swab collection boxes, do not expose to air to avoid contamination. Use plastic containers instead of glass containers to prevent damage caused by glass containers.
Serum/Plasma (for human WGS/ WES/ TRS projects only)	⩾4 mL	–	Snap frozen	Dry ice	–
Stool (for Metagenomics projects only)	⩾1 g	–	Snap frozen	Dry ice	–
Fungal/Bacteria culture or cell pellet (for microbial WGS and Metagenomics projects only)	⩾100M (cells) or ⩾20 mg (wet weight)	–	Snap frozen	Dry ice	–

Sample requirements for RNA extraction

Sample Source	Standard Amount	Special Amount for Several Products	Buffer/Status	Recommended Shipping Method	Notes
Cell pellet	⩾ 1 M cells	⩾ 1.5 M cells for sRNA-seq/ circRNA-seq; ⩾ 3 M cells for WTS	Snap frozen	Dry ice	–
Whole blood	⩾5 mL	⩾8 mL for sRNA-seq/ circRNA-seq; ⩾10 mL for WTS	PAXgene Blood Tubes OR Blood collection tube with EDTA as anticoagulant	Dry ice	1. Every tube should be individually packaged with sufficient dry ice. 2. All tubes should be separated. 3. Any damage or liquid overflow should not be allowed. 4. Seal the tubes well to avoid leakage due to tube damage. 5. Prepare for vibration-absorption.
Fresh animal tissue	⩾300 mg	⩾500 mg for sRNA-seq/ circRNA-seq; ⩾800 mg for WTS	Snap frozen	Dry ice	After sample collection, it is recommended to immediately snap-freeze and then cryopreserve the fresh tissues. To limit RNA degradation, NEVER leave fresh tissues at room temperature or wash them even for a short time.
Fresh plant tissue	⩾500 mg	⩾800 mg for sRNA-seq/ circRNA-seq; ⩾1 g for WTS	Snap frozen	Dry ice	
FFPE slides and curls	⩾10 slides; ⩾4 curls	–	–	Room temperature/ Blue Ice	Slide Thickness: 10 um; Area: >1 cm^2 Curls: ⩾4 curls per Eppendorf tube
Stool (for Metatranscriptome projects only)	⩾500 mg	–	Snap frozen	Dry ice	–
Fungal/Bacteria culture or cell pellet (for Prokaryotic RNA & Metatranscriptome projects only)	⩾100M (cells) or ⩾20 mg (wet weight)	–	Snap frozen	Dry ice	–

Notes

1. If weight is known, preferably client can provide weight as well on SIF.
2. Preferably samples come in 2 mL centrifuge tube. Animal tissue must come in on dry ice (-80°C). Plant tissue is preferred to also come in on dry ice.
3. Type/location/source of sample must be known and indicated. Example, mouse kidney tissue or buccal swab.
4. For plant samples, client will need to indicate which part of the plant tissue they will want extraction from if they provide the whole plant. Example, root or shoot? Only necessary if the client provides both.
5. Client will need to indicate if it is okay to use the whole tissue sample provided and if not what they would like done with the left-over tissue, we will not provide long term storage and would prefer to ship back to client if they do not want all the tissue to be used.
6. If possible, please note if sample contains high polysaccharide and/or high lipid content or not.
7. The yield and RIN of RNA extracted from skin tissue is typically low.
8. The yield and quality of RNA extracted from adipose tissue is typically low. It is recommended that the customer send three times the amount of sample recommended for adipose tissue.
9. Client will need to provide if sample is in stabilizing solution and which kind. For RNALater, the recommended ratio between RNALater and tissue is 3:1, requiring tissues be completely submerged and no air left within the tube. The RNALater-tissue mix should be snap-frozen and then cryopreserved before shipping out by dry ice.
10. For cell samples, it is recommended that cells in logarithmic growth phase are collected and directly frozen in trizol. Never put cells in RNALater. Cells in PBS/TBS, Serum (FBS, NCS), Cell media (Optimem, DMEM), RLT lysis buffer, Cryopreserve reagents are also acceptable.
11. All tissues must not contain any pathogenic agents that could cause severe illness or hazards to Novogene staff handling the samples. Non-patient and non-infectious samples only. The recommended buffers for tissues are no buffer, NFW (nuclease-free water), RNALater or Trizol.
12. Please avoid repeated freeze-thaw during sample storage and transportation.
13. The above sample amounts do include redundancy for additional processing if needed. Our lab technicians will at random excise enough tissue to complete one round of extractions. Processing all tissue at your request may result in additional charges. If you want the remaining tissues returned, please notify your Project Coordinator immediately after the extraction is finished.

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