

Guidance notes

Nucleic acid extraction and purification service guidance notes

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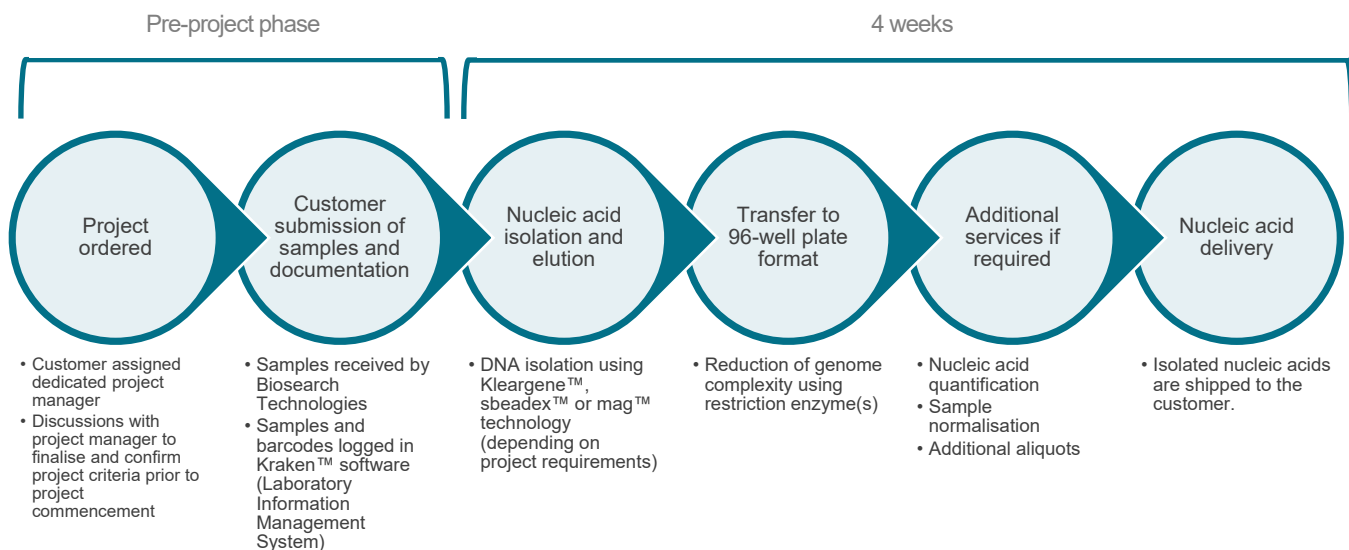
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1. Introduction

These guidance notes have been developed to assist with the submission of samples and supplementary information to LGC Biosearch Technologies for a nucleic acid extraction and purification project.

2. Project workflow

Below outlines the details of the steps involved in the nucleic acid isolation service:



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3. Sample submission

Please see the tables in appendix A and B for information on necessary documentation and tissue submission requirements.

Where possible, submitted samples should be labelled with printed labels and/or barcodes. Sample IDs should be 15 characters or less. Handwritten and >15-character sample IDs are acceptable, but may delay commencement of the project and incur an additional charge.

All deliveries should be clearly labelled to include your project manager and project number.

If your samples are known to be infectious, we are NOT able to receive them.

4. Project completion

- Isolated nucleic acids are returned to the customer in deep well plates (96-well). Alternative formats are available at an additional cost.
- If ordered, quantification data will be emailed directly to the customer.

5. Additional services

More details on the additional services available for nucleic acid isolation projects can be found on [our website](#). We offer:

- DNA quantification by UV measurement and/or PicoGreen® measurement
- Concentration and normalisation of nucleic acid extracts
- Quality check with Agilent 2100 Bioanalyzer
- Gel electrophoresis (0.8% standard agarose gel)
- Storage of DNA and RNA samples
- Additional aliquots: provided in deep well plates (96-well) or 2D barcoded tubes

You may also want to consider:

- [All-inclusive KASP service](#): this includes kits, DNA isolation, assay set up and genotyping for one complete price per sample.
- Human gender SNP genotyping service for QC
- Custom SNP genotyping for QC and/or project
- [KASP human exome sample tracking panel](#): this consists of 24 validated human KASP assays that create a unique genotyping profile for each sample. This complete panel is available as a product or a service. Assays are not available individually.

6. Useful links and contacts

- For pricing and new order enquiries, please contact the customer service team: orders.uk@lgcgroup.com; +44 1992 470757
- For project-specific enquiries, please contact your project manager directly. A project manager will be assigned to your account upon receipt of a purchase order for your first project.
- For general enquiries, please contact info.uk@lgcgroup.com

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Appendix A: Documentation submission guidelines for services

Application	Biosearch Technologies service	Forms to be completed and submitted for service project			New Biosearch Technologies customer	
		If submitting tissue samples	If submitting DNA	Other useful information	Complete form if you do not have an Biosearch Technologies customer number	Complete form if you have not previously registered with our Sequencing Shop
Extraction/ purification only	Extraction/ purification	Sample submission form - Extraction and purification services Samples in plates: please provide plate maps Samples in tubes: tubes should ideally be barcoded or clearly labelled. Please provide a sample manifest (electronic list of sample IDs) Purchase order Human samples only: consent form in accordance with HTA regulations*.	n/a	Guidelines for sample shipment	New account application form	n/a

*Failure to provide the consent form for human samples could result in samples being refused delivery due to non-compliance with HTA regulations. All human samples must be anonymised.

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Appendix B: Tissue submission requirements

Please note the following important information:

- No biological material (of any type) should be shipped in 0.2 mL tubes or plates
- No BSL-III material is accepted at any Biosearch Technologies site
- No GMO seed or BSL-II material is accepted at the Middleton, WI, USA. If you wish to process these materials, please contact techsupport@lccgroup.com for alternative options. Non-viable GMO material (e.g. leaves) is accepted
- Any deviation from standard sample shipment guidelines (without prior discussion with Biosearch Technologies) may result in refusal of sample receipt or incur additional costs

Application	Sample type	Minimum sample requirements			Preferred and accepted plastic ware for shipping				Shipping requirements	
		Sample number per batch*	Volume/ quantity	Quality	Recommended sample collection tube/plate (NOT for sample submission)**	Plate/tube types (for sample submission)	Plate seals	Sample handling	Packing and dispatch conditions	Other information
Nucleic acid purification	Leaves	48 or 95 (with at least 1 well unused for non-template controls)	4 - 9, 6 mm (diameter) leaf discs** Leaf material must be in discs or pre-cut into small pieces, otherwise additional processing costs will be incurred	Young leaf tissue, L3/L4 stage, avoiding midrib and axillary veins, consistent positions across plants	BioArk Leaf Kit (preferred)	BioArk Leaf Kit (Biosearch Technologies KBS-9370-001-L) (preferred) 96-well, 2.2 mL plate (preferred for all sites excluding Berlin) 96-well, 1.2 mL plate (preferred for Berlin, accepted for all other sites)	BioArk Leaf Kit (preferred)	If not using the BioArk Leaf Kit, samples should be stored: at -20 °C (KASP genotyping only) or dried at room temperature	BioArk Leaf Kit Ambient Dried Ambient -20 °C Frozen Ethanol Ambient	If HMW DNA is required for other downstream applications (e.g. NGS), it is recommended to immediately dry leaves after harvesting (freezing of fresh leaves will result in DNA degradation).
Nucleic acid purification	Seeds	48 or 95 (with at least 1 well unused for non-template controls)	Dependent on size of project - please discuss with your project manager	n/a	BioArk Seed Kit (preferred)	BioArk Seed Kit (Biosearch Technologies KBS-9370-001-S) (preferred) 96-well, 2.2 mL Porvair plates (preferred) 96-well, 1.2 mL plates (accepted)	BioArk Seed Kit (preferred)	No special sample handling	BioArk Seed Kit Ambient	n/a

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Application	Sample type	Minimum sample requirements			Preferred and accepted plastic ware for shipping				Shipping requirements	
		Sample number per batch*	Volume/quantity	Quality	Recommended sample collection tube/plate (NOT for sample submission)***	Plate/tube types (for sample submission)	Plate seals	Sample handling	Packing and dispatch conditions	Other information
Nucleic acid purification	Blood	48 or 95 (with at least 1 well unused for non-template controls)	200 µL	Fresh frozen EDTA, citrate or heparin	EDTA vacutainer PAXgene DNA Blood Tube (BD Bioscience 761165)	96-well, 2.2 mL plate (Porvair Sciences 219030) (preferred) 96-well, 1.2 mL plates (accepted)	Heat sealing (preferred)	No special sample handling	<u>-20 °C</u> Frozen on dry ice	n/a
		48 or 95 (with at least 1 well unused for non-template controls)	500 µL	Fresh frozen EDTA, citrate or heparin	EDTA vacutainer PAXgene DNA Blood Tube (BD Bioscience 761165)	96-well, 2.2 mL plate (Porvair Sciences 219030) (preferred)	Heat sealing (preferred)	No special sample handling	<u>-20 °C</u> Frozen on dry ice	n/a
Nucleic acid purification	Buccal swabs	48 or 95 (with at least 1 well unused for non-template controls)	One swab/sample	n/a	Genotek Collection Kit (Oragene OG-500) DNA Buccal Swabs (Isohelix SK-1S)	<u>Swabs</u> Sorted into boxes or bags <u>Tubes</u> Sorted into boxes <u>Discs</u> Sorted into bags	n/a	No special sample handling	Ambient	n/a
Nucleic acid purification	Saliva	48 or 95 (with at least 1 well unused for non-template controls)	One tube or disc/sample	n/a	Genotek Collection Kit (Oragene OG-500)	<u>Tubes</u> Sorted into boxes <u>Discs</u> Sorted into bags	n/a	No special sample handling	Ambient	n/a

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Application	Sample type	Minimum sample requirements			Preferred and accepted plastic ware for shipping				Shipping requirements	
		Sample number per batch*	Volume/ quantity	Quality	Recommended sample collection tube/plate (NOT for sample submission)**	Plate/tube types (for sample submission)	Plate seals	Sample handling	Packing and dispatch conditions	Other information
Nucleic acid purification	Livestock tissue	48 or 95 (with at least 1 well unused for non-template controls)	4 mm (cubic) solid tissue, 600 ng DNA	Fresh frozen	n/a	96-well, 2.2 mL plate (Porvair Sciences 219030) (preferred) 96-well, 1.2 mL plates (accepted)	Heat sealing (preferred)	At -20 °C or in 96 - 99% absolute ethanol	-20 °C Frozen <u>Ethanol</u> Ambient	n/a
Nucleic acid purification	Aqua-culture	48 or 95 (with at least 1 well unused for non-template controls)	4 mm (cubic) solid tissue, 600 ng DNA	n/a	BioArk Fish Kit (preferred)	BioArk Fish Kit (Biosearch Technologies KBS-9370-001-F) (preferred) 96-well, 2.2 mL plate (Porvair Sciences 219030) (preferred) 96-well, 1.2 mL plates (accepted)	BioArk Fish Kit (preferred)	If not using the BioArk Fish Kit, samples should be stored: at -20 °C or in 96 - 99% absolute ethanol	BioArk Fish Kit Ambient -20 °C Frozen <u>Ethanol</u> Ambient	The BioArk Fish Kit has been validated for the collections of fish fins. Should an alternative sample type be desired, please discuss with your project manager.

*If shipping samples to our Berlin, Germany site, a minimum sample number of 24 is required for purification projects.

**The exact number of leaf discs will depend on various factors (age of leaf, size/scale of project, plant species etc.). For the exact number of leaf discs for your project, please discuss with your project manager.

***Other sample collection tube/plate types may be accepted. Please contact techsupport@lqcgroup.com for further information.

HMW = high molecular weight



Integrated tools. Accelerated science.

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