Guidelines for sample collection, storage, extraction, and shipping

Maximising sample quality

To maximise quality, we recommend carefully considering your sample collection and extraction workflow before attempting to collect any samples. Unfortunately, there is little we can do to improve poor library preparation results associated with the submission of degraded nucleic acid samples. Many sample collection and extraction products are designed to work together, particularly when working with challenging samples, e.g., PAXgene collection tubes and extraction kits are designed to work with some whole blood samples.

Our general recommendations for storage of nucleic acid samples are as follows:

- DNA samples – store at 4°C short-term or -20°C long-term.
- RNA samples – store at -80°C.
- Prepared amplicons and libraries – store at -20°C.

Avoid subjecting any samples intended for downstream NGS analysis to freeze–thaw cycles.

Sample submission requirements

For projects that involve ≥24 samples, we request samples to be submitted in a 96-well, fully-skirted plate, arranged down the plate in a column-wise fashion (sample 1 = well A1, sample 2 = B1, sample 3 = C1, etc.). Please pay careful attention to the sealing of 96-well plates prior to shipping: unfortunately, we do occasionally receive poorly sealed plates in which samples have leaked from their wells, leading to cross contamination.

For projects involving <24 samples, submission in a 96-well, fully-skirted plate is still recommended but we will also accept 1.5 ml tubes. We recommend using tubes with safe–lock lids. We request that samples submitted in tubes are clearly labelled in numerical order for ease of sample identification. Please underline any numbers that could be misread upside-down (e.g. 6/9, 16/91).

Please use a waterproof marker pen and avoid smudging of sample labels. Alternatively, use sticky labels that can withstand freezing. Make sure labels are attached to dry tubes, as moisture will prevent proper attachment.

Please make sure the project ID is clearly visible on sample plates, tubes, bags and boxes. Unfortunately, we do occasionally receive unlabelled samples, and it can be very difficult to discern who submitted such samples and how they should be stored.

Please make sure the sample labels on your submitted tubes/plates matches the sample name submitted in the CGR LIMS.
Sample shipment
Once your project has been submitted in our LIMS and the samples are clearly labelled and well-sealed, please send them to:

Anita Lucaci  
Centre for Genomic Research  
University of Liverpool  
The Biosciences Building  
Crown Street  
Liverpool  
L69 7ZB  
England

Please ensure that your samples are protected from damage by using bubble wrap or similar. Use ice packs to keep samples cool. To prevent freezing of high molecular weight DNA, make sure the samples are insulated and not in direct contact with ice packs. Use dry ice if it is essential that samples remain frozen during shipment (this is always recommended for shipping RNA samples). Do not use ice as this will melt during shipment and may contaminate your samples.

We recommend shipping samples no later than Wednesday in any standard week in case there are any delays that may cause samples to be held in a storage depot over the weekend. In non-standard weeks, ship samples at least 2 working days before any closure days.

Sample delivery in person
The CGR is in Lab E on the 2nd floor of the Biosciences Building, Crown Street, L69 7ZB. The Biosciences Building looks like this:

Samples can be brought any weekday between 10am and 3pm.
You will need to call the office number when arriving as you won’t have card access to enter the lab: 01517954551.
If you are coming by train, please be aware that you will be walking up a steep hill for around 15 minutes from Lime Street or Liverpool Central Stations.

If you are coming by car, please be aware that there is very little parking available near the CGR. The closest reliable and secure car park is:

- Mount Pleasant Car Park
- 38 Mount Pleasant
- Liverpool
- L3 5TB

Please be aware that you will be walking up a steep hill for around 10 minutes from Mount Pleasant Car Park.

If you have any questions about the information set out in this document, please contact us at CGR_Lab@liverpool.ac.uk and we will be happy to offer further advice.