

## International Sample Logistics

Extraction of nucleic acids from whole blood specimens submitted for genomic analyses

### Sample Collection

- DNA extraction should be performed from whole blood (>6mL), collected in either acid-citrate, citrate or EDTA anticoagulant-treated fresh blood.
- Blood should be transported unfrozen (ambient temperature) to the location for DNA extraction.

### DNA Extraction

- DNA should be extracted using Qiagen DNeasy Blood/Tissue Extraction Kits or similar. Please contact Genome.One prior to extraction to ensure compatibility and suitability of the extraction protocol.
- DNA should be submitted to Genome.One in Qiagen Elution Buffer (EB), Illumina Resuspension Buffer (RSB) or similar.
- Sample quantification must be completed using a fluorometric assay specific to dsDNA (e.g. Picogreen, Qubit BR assay)
- The extracted DNA must meet the following specifications and quality criteria:
  - Volume: 100 µl
  - Concentration: 20-100 ng/µl
  - A260:280 >1.8
  - Total >1.2µg
- Samples must not be amplified (PCR, WGA, MDA etc)
- Samples must be free of contaminating nucleic acids
- Samples must not be from FFPE material
- Samples must not be modified prior to shipping (e.g. bisulphite conversion)
- Samples must be pure, intact and of high molecular weight



## Shipping Requirements

DNA must be sent in secure (screw-capped) tubes labelled with at least TWO patient identifiers, which must include full name and either date of birth or unique medical record number. The patient identifiers must also be stated on the request form. Primary samples should be retained by the laboratory performing the DNA extraction in accordance with prevailing local regulatory requirements.

Samples should be shipped to Sydney using a courier company that specialises in the transport of biological substances. Genome.One recommends World Courier, LabCabs, DGI and Logical Freight Solutions. We strongly advise against the use of non-specialist courier companies such as DHL or FedEx for shipment of samples to Australia. It is best if samples are sent at the beginning of the week to avoid weekend delays.

Each DNA tube must be accompanied by the relevant paperwork including:

1. Test request form / Blood collection details
2. Any internal documents generated by the DNA extraction laboratory

Please ensure that the DNA tubes are clearly labelled and securely packaged. All paperwork should be properly labelled with the identifier specific to particular DNA sample (to enable matching documents to a specific tube) and placed in a bag separating papers from the specimen. It is recommended that samples should be shipped in triple packaging consisting of the Primary Receptacle (DNA tube), Secondary Receptacle (Tube Rack, Falcon Tube etc.) and Tertiary Receptacle (padded outer packaging). If screw cap tubes are used please secure the cap by wrapping it with a parafilm.

The following documents must be clearly attached to the outer package (it is advised, that four copies of everything be included on the box):

1. One copy of the AQIS Import Permit (download from <https://www.genome.one/disease-diagnostics/how-it-works>)
2. One copy of the Manufacturer's Declaration (template can be downloaded from <https://www.genome.one/disease-diagnostics/how-it-works>). This template provided by Genome.One is to be filled out on your institution's letterhead. The declaration should comply with the conditions of the import permit. We recommend that the stated value is less than \$1000 on any paperwork you provide, so as to not trigger a requirement for a tax invoice. Please note this is not the value of the sequencing test.
3. Four copies of the Customs Declaration (can be downloaded from <https://www.genome.one/disease-diagnostics/how-it-works>).



Ship samples to:

Central Specimen Reception (CSR)  
SydPath  
St Vincents Hospital, Xavier Building  
Level 6, 390 Victoria Street  
Darlinghurst NSW 2010 Australia  
P +61 2 8382 9100

At the time of shipping, please send an email notification to Genome.One ([clinical@genome.one](mailto:clinical@genome.one)) with your express mail tracking number, as this will allow us to track your shipment. Patient identifying information must not be sent by unencrypted email.

Genome.One will notify you when the samples have been received in the Genome.One laboratory. The point of sample receipt is the start of the turnaround time, provided that all required paperwork has been received and payment has been made.