

# Improving translational research sample collection in international trials.

## WHAT TO CHECK...

### BEFORE SAMPLING

- Did you notify the staff involved in the sampling?
- Did you plan and assess with the staff taking the samples that all requirements to safeguard the samples are met appropriately?
- Did you verify with the staff involved that the patient has consented for tissue collection for research purposes?
- Have you documented in Standard Operating Procedures (SOP) which methodology to freeze and fix the samples you are going to use?
- Have all staff involved in the sample handling been informed and trained on the procedure to be used?

### DURING SAMPLE HANDLING

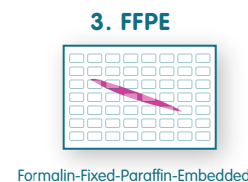
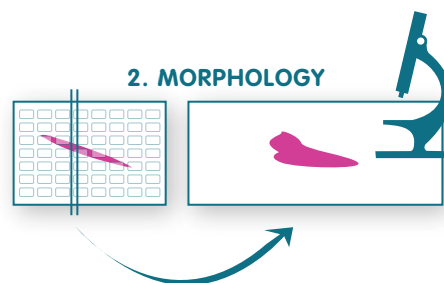
- Be sure to use sterile instruments that are DNA-ase and RNA-ase free.
- Be sure to not use the same instrument to sample normal and tumour tissue respectively.

- Be sure to not sample macroscopically evident zones of necrosis.
- Be sure that if you take normal tissue, to take it as far as possible as you can from the tumour; avoiding sampling only fat as normal tissue (unless it is intended).
- Be sure to take mirror images of the sample in order to avoid heterogeneity between the frozen sample and the fixed sample from the same tumour.
- Be sure that you can trace all steps of sample handling, from the very moment of sampling till the moment of storage or sending the sample elsewhere.
- Be sure not ever to take a tissue sample without consulting with the pathologist.
- Be sure that the tissue is sent immediately to the laboratory, preferably <30min from the moment of resection.
- Be sure to record the time lapse between sampling and freezing of the tissue in real time.
- Be sure to clearly label the sample using patient unique identifiers and ink that is resistant to humidity and cold.
- Assure that the sample is neither squeezed nor fragmented during sampling.

### AFTER SAMPLE HANDLING

- Did you consider performing at least 2x/year a quality control check of DNA, RNA and protein of at least a random 1% of your samples?
- Did you consider using dry ice when transferring samples from one repository to another in order to avoid freeze-thaw cycles on the same sample?
- Did you ensure that all equipment used is validated, whenever applicable?
- Did you ensure a continuous temperature monitoring of all crucial fridges and freezers, implementing an associated instant alarm notifying system?
- Did you document your methodology in detail?
- Can you ensure that you can document who has done what, when and how?

For related information, please consult our other educational material at [www.BIGagainstbreastcancer.org](http://www.BIGagainstbreastcancer.org)



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**This checklist provides the main items that need to be checked when handling samples for international trials.**

## DISCLAIMER

This educational material aims to illustrate "Good Laboratory Practice" in terms of handling samples in clinical cancer trials. To this end, focus has been put on the most frequently used methods, knowing that other methodologies and preservatives/fixatives may also be used in some laboratories. No judgment is made about such other methodologies and preservatives/fixatives. The Breast International Group (BIG) shall not be liable in any way with regard to the application of any content presented here.

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