

Sample Collections during the COVID-19 Pandemic

Home Collections*

*Please note these are only recommendations. Check with the CDC guidelines, along with your local EHS (Environmental Health and Safety) and IRB groups at your institution before collecting and/or shipping saliva samples to ensure you have received proper training and are following appropriate rules/regulations, and to ensure you may continue to collect samples at this time.

If you are planning on collecting samples during this period, you may consider home collections if feasible and if your study allows for home collections. Samples collected at a participant's residence should be stored in a home freezer (-20°C) in the interim, noting the date collected. Duration of time stored at -20°C (as opposed to -80°C) may affect some analytes measured in the future.

Once samples can be/need to be returned to the PI (**depending on current travel restrictions**), the options are to:

1. Have someone from your lab drive around to collect samples from participant residences. This person should be up to date in training specific to human sample handling, dry ice training, shipping procedures, etc. Social distance should also be maintained during pickup of samples, and appropriate PPE should be worn, including a face mask and gloves. A cooler or shipping container/bioshipper (cardboard box with internal Styrofoam box) containing dry ice should be used for sample collections to keep samples as cold as possible while collecting samples. If dry ice is not available, cold packs can be used, but note that a samples will thaw over time if solely kept on cold packs. A container with dry ice should never be completely sealed, and one should exercise caution when in a car/enclosed space with dry ice. Please reach out to your EHS for further training/recommendations for dry ice handling. The cooler or container should be labeled with a dry ice label, UN3373 label, and also with a member of the lab's contact information. Once collected, samples should be placed into a central freezer (-80°C is ideal, but at least -20°C) until they are ready to be shipped to the lab for processing.
2. Have the participants go to your lab to drop off their samples. Social distance procedures should be discussed prior to participants arriving at the lab and maintained during the drop off. Appropriate PPE should also be worn by both parties. Samples should be placed into a central freezer (-80°C is ideal, but at least -20°C) until they are ready to be shipped to the lab where they will be processed.
3. Participants to mail in their samples to the PI's lab. Cold chain management of samples should be emphasized, especially if temperature-sensitive biomarkers will be tested. Participants will need an insulated mailer, gel pack, and return shipping label. Shipping mailers should also be labelled according to current IRB/EHS and CDC guidelines. Once samples have been received by the PI's

lab, they should be placed into a central freezer (-80°C is ideal, but at least -20°C) until they are ready to be shipped to the lab where they will be processed.

Collection Procedure*

*Please keep a roster of all samples collected from October 2019 onwards. Samples may contain SARS-CoV-2, and this will ensure safe handling in the future as labs may take extra precautions when handling samples collected during this time.

1. Participants wash hands for 20 seconds prior to collecting the saliva sample(s).
2. Collect saliva sample as normal (follow typical passive drool or swab collection protocols). Tubes should be labeled prior to providing them to participants.
3. Sample tubes should be immediately capped and sealed. Outsides of tubes should be disinfected following collection. Disinfectants are listed on the CDC website (<https://www.epa.gov/pesticide-registration/list-n-disinfectants-use-against-sars-cov-2>). Ensure no disinfectants leak into the tube via an unsealed or partially sealed tube.
4. Samples should be placed in a secondary container (sealed plastic bag with absorbent material, freezer box, etc.) that is labeled, then placed in a freezer (-20°C) as soon as possible. See below for more guidelines.
5. Participants should wash hands for at least 20 seconds after collecting the saliva sample(s).

Sample Storage and Shipping

Always check with your EHS and IRB groups at your institution before collecting and/or shipping saliva samples to ensure you have received proper training and are following appropriate rules/regulations. Additionally, please refer to the following link for CDC guidelines prior to shipping samples: <https://www.cdc.gov/coronavirus/2019-ncov/lab/biosafety-faqs.html>

Sample storage:

1. Once collected, samples should be stored in a freezer between -20°C (home freezer) or -80°C (ultra-cold lab grade freezer) when possible
2. Samples should be placed inside sample storage boxes (or biohazard Ziploc bags + absorbent material for home collections)
3. The sample storage box should be placed inside a large biohazard Ziploc bag (or Ziploc bag with a biohazard sticker on it)
4. A piece of absorbent material (paper towel, etc.) should be placed inside the Ziploc bag to absorb any potential spillage

Sample Pickup/Shipping:

1. Samples in bags or boxes should be placed inside cooler or in a bioshipper on dry ice.
2. Bioshipper should be labeled with the following:
 - a. Hazard labeled with UN Identification Number already on label – UN 3373
 - b. Biological Substance, Category B
 - c. Hazard Labeled with UN Identification Number- UN 1845
 - d. Dry Ice along with the net weight (kg) of the dry ice
 - e. Shipper's name and address
 - f. Receiver's name and address
 - g. Name and phone number of a responsible person.

Receiving samples:

1. Lab personnel receiving samples should wear appropriate PPE before handling samples.
2. Ensure samples are labelled, are frozen, and tubes are in good condition (no cracks or leaks).
3. Sample collection tubes should be disinfected once received by the lab. Disinfectants are listed on the CDC website (<https://www.epa.gov/pesticide-registration/list-n-disinfectants-use-against-sars-cov-2>).
4. Boxes with samples can be marked with date received, and a label noting if the samples were collected during the COVID-19 pandemic. This can act as an indicator to use extra safety precautions while handling those samples in the future. Samples should be stored in -80°C as soon as possible.
5. Sample processing should be performed in a biological safety cabinet.