

Sample Collection Instructions & Shipping Instructions for MAC DNA Test

Prepared by AMSC Health Committee – June 2016

Please follow these instructions for sample collection for DNA testing. Cheek Swabs will be furnished to you by the AMSC Health Committee.

We are not accepting the manually filled submission forms anymore, so Please make sure that you **create a PennGen account** for yourself with password, login into your account, fill in the animal details for a submission, select the appropriate test (MAC, but if you wish also myotonia congenital and MPS VI) to obtain a Submission ID for each animal and then **print it out, sign, and mail it along with the sample(s). Each individual test will cost \$75, which you will be obligated to pay in order to view your results.** Payment is with credit card per secure online system after testing has been completed. Account holder will receive an email.

Blood Sample Collection (performed by a veterinary clinician or nurse)

1. Label an EDTA (purple top) tube with animal's call name and owner's last name.
2. Draw 1–2 ml of patient's blood into the labelled tube.
3. Blood sample must be kept cold (but not frozen) until shipping.
4. Blood tubes need to be placed in to tube wrapper or wrapped in a bubble wrap or other protective packaging and then sealed in a Ziploc® bag.
5. Complete the **submission form online and mail it along with the sample to the address mentioned on the submission sheet.**
6. These samples do **not** need to be shipped on ice and you may ship on any day of the week.
7. All samples for DNA testing can be shipped by regular mail, but we recommend a reliable 2 day delivery service and having a tracking number for your shipment, so that you can track the delivery of your samples.
8. For international shipments, a customs declaration signed by veterinarian and proforma invoice (value \$10) must be filled out and attached outside package(see [international shipping below](#)).

International Shipping

When shipping internationally, first verify the shipping requirements as described by your choice of delivery service provider (FedEx, UPS, ParcelForce, DHL, etc).

US Customs requires that all international shipments have two written declarations specifying the contents of the package. One declaration should be secured to the outside of the package, and the other should be inserted inside the package. Please copy the following statements onto a piece of paper, preferably your own letterhead, and make sure to sign and date this declaration.

Regarding USDA Guidelines for Importation #1102 - Feline and Canine Material

I understand that a USDA import permit is not required for this material since I can provide the following true statements.

1. The material in this shipment is [canine/feline] [blood/serum/fluids].
2. This material does not contain any other animal derived material (i.e., does not contain any livestock or poultry origin material).
3. This material was NOT derived from cats and/or dogs which were inoculated with or exposed to any infectious agents of agricultural concern.

I declare that the above information is true and correct to the best of my knowledge.

Signature:

Veterinarian - Print Name:

Clinic Info / Letter Head:

For more information on this guideline, please visit [the USDA webpage](#).

Cheek Swab/Brush Sample Collection - cheek brushes are provided by the AMSC Health Committee and are included in this package

1. Cheek swabs/brushes the AMSC provides for use or you need to purchase:
 - **Sterile** and handled carefully to not contaminate brushes
 - Wrapped individually or two per pack and without any media/liquid
 - The wrapper must be intact/unopened before sample collection
 - Their handles (plastic only; we do not accept swabs with wooden handles) have to be at least 6 inches long and the thickness of those handles has to be less than 0.25 centimeters in diameter
2. Isolate the animal from other animals, toys and other sources of oral contamination for several hours before sampling.
3. To avoid contamination with food, do not feed the animal at least three hours before you collect the sample. Because of the potential of contamination with the dam's colostrum and milk we do not recommend using brushes/swabs before weaning. EDTA blood can be safely collected from birth on.
4. Check the animal's mouth for food or other substances. If there is something, clean/rinse the animal's mouth and wait for another hour.
5. The person collecting the sample should avoid touching swab/brush and inside the animal's mouth. Wearing disposable gloves will help.
6. Wash your hands before you collect the sample or wear disposable gloves.
7. Label the packages that contains the cheek swabs/brushes with the animal's call name and the owner's last name.
8. Open the end of the swab/brush package that shows the word "peel" printed on it. Be careful not to touch the swab/brush end as you remove it; it should not touch anything except inside the animal's mouth or inside the package it came in.
9. You may ask a second person to gently restrain the animal's head while you collect the sample.
10. Insert swab/brush end between the animal's gums and inside of the cheek. Roll/rotate the swab/brush on the inside surface of the cheek 10 x or for 15–20 seconds. Make sure that the swab/brush is in contact with the cheek and not just with the saliva. To enhance sample collection, gently push on the outside of the cheek while rolling the swab/brush, this will press the swab/brush between the cheek and gum.
11. **Do NOT blow on the swab/brush.**
12. Return swab/brush to its original package, **allow it to dry completely**, and then tape the opened end shut.
13. Repeat steps 7–13 for the second swab/brush using opposite side of the mouth. Two to three swabs/brushes are needed for each animal tested.
14. Secure 2-3 swabs/brushes from each animal in one paper envelope for each animal Identify with your last name and dog's call name.
15. If you plan to test another animal, **remember to wash your hands before you start with the next animal and change gloves.**
16. To reduce the chance of microbial growth on the swabs/brushes after sample collection **do not freeze them and do not store them in a refrigerator where condensation can occur.**
17. Complete the [submission form](#), [sign it](#), and mail it along with the sample in a sturdy mailing envelope to the address mentioned on the submission sheet. **Write "Do Not Bend" on the mailing envelope.**
18. All samples for DNA testing can be shipped by regular mail, but we recommend having a tracking number for your shipment, so that you can track the delivery of your samples. **Do NOT ship them on ice.**
19. For international shipments, a customs declaration and proforma invoice may have to be filled out (see [international shipping](#)).

We have been accepting cheek swab/brush samples for our DNA tests because it simplifies the process of sample submission and reduces the associated expenses for the submitter. But, **it is important that you understand the following concerns/risks with submitting a cheek swab/brush sample:**

1. **Misidentification/Mislabeled:** Especially when collecting samples from siblings/littermates, it is possible to misidentify the animals or to mislabel the collected samples. This will obviously lead to inaccurate results.
2. **Contamination:** DNA tests are contamination-sensitive; even miniscule amounts of contamination from another animal or human could lead to false results. Therefore, it is very important to be

attentive during sample collection and all the instructions must be followed precisely to avoid contamination.

3. **Unweaned Puppies:** We do **NOT** recommend collecting cheek swab/brush samples from unweaned puppies due to the risk of maternal contamination. For testing unweaned puppies, have a veterinarian collect about 0.5 ml of EDTA blood from each puppy which is easily and safely done from the jugular vein from birth on.
4. **No/Insufficient DNA:** While collecting the sample if too few cells are scraped from the cheek then it will yield insufficient DNA and the test will fail. While there are other factors that could cause insufficient DNA yields, it is most likely due to the sample submitter's failure to follow the instructions appropriately. We ask for at least two swab/brush samples to be submitted from each animal, if both of them fail the test it means that something went wrong before the PennGen laboratory received the samples (either the samples were not collected/shipped properly or some other shipping issue like bacterial degradation or customs irradiation of the package). There have been instances where the submitter sent unopened/sterile brushes by mistake, which obviously resulted in no DNA yield.
5. **Resubmission because of lack of DNA:** When a test fails due to No/Insufficient DNA yield we ask for a resubmission but both the failed submission and resubmission will be charged separately. When we receive a sample that yields in no DNA we end up testing more number of times than usual before we conclude it has no/insufficient DNA. So, it costs us more and takes more time for such samples.