

DNA TEST FOR SPINAL MUSCULAR ATROPHY (SMA) IN MAINE COON CATS (MC)

Using the test it is possible to identify the gene mutation that causes SMA in MC and cats that are:

- **affected with SMA** (affected individuals have two copies of the mutant gene). Affected cats will have the clinical disease, demonstrated by abnormal gait and weakness beginning at 3-4 months of age, elevation of serum CPK activity to 2-3 times normal, and neurogenic atrophy of muscle on biopsy.
- **carriers of SMA** (have one copy of the mutant gene and one normal gene copy). Carriers have no disease themselves but can pass the defective gene on to the next generation. On average, 50% of offspring of a carrier will be carriers themselves. If offspring receive the mutated gene from **both** parents, they will exhibit SMA.
- **genetically normal for SMA** (have two copies of the normal version of the gene). Normal cats can never produce an affected kitten. If **both** parents are tested SMA normal, none of the offspring will have the disease or be carriers.

How accurate is the test?

The test itself identifies the actual disease-causing mutation and is therefore totally reliable in identifying this form of SMA. If, however, a second form of SMA were to develop in MC, the test would not identify it. Steroid-responsive peripheral polyneuropathy can mimic SMA and has been seen in some young MC.

Please take every care to follow the submission instructions and ensure that the brushes are labeled correctly.

Procedure to collect samples:

1. We advise that two people collect the DNA sample, one to gently restrain and hold the head, the second to collect the sample. To avoid contamination from food, please collect the sample at least 2 hours after the cat's last meal or snack, water is OK at any time.
2. Label each brush sleeve with the cat's full name, a registration number (please indicate registering organization) and owner's name. Label 2 brush sleeves per cat. Label on the **paper side** of the brush sleeve (labels on the plastic side come off too easily).
3. Wash hands before sample collection **and between cats** if more than one DNA sample is being collected. We are more interested in the cat's DNA than yours.
4. Peel open the brush package about 1 inch at the arrow (the opposite end from the bristles). Remove the brush, being careful not to touch the bristles.
5. Place the brush between the lip and gum of the cat being tested, and gently brush the inside of the cheek using all sides of the round brush.
6. Place the brush back in the original labeled package, bristles in first.
7. Repeat steps 3-6 with the additional brushes for each cat. Please collect **2 brushes from each cat**.

Cost of the test

The cost of the test is \$65.00 per cat. We regret that we cannot offer a discount to those sending more than one sample. We will send you a brush sampling kit if you communicate your postal mailing address and how many cats you wish to test. Please include an additional \$5.00 for the sampling kit (one fee per kit, not per cat) at the time you submit the samples. Please enclose a check for the total made out to: *Michigan State University (SMA Test)*, and include it with the sample brushes. Clients outside the USA should pay by international money order in US dollars. For shipment, tape the ends of each brush package closed, and bundle the brushes for each cat. Brushes for more than one cat can all be returned in the same package. The samples are stable without refrigeration and do not need overnight express mailing. Include in the package:

- a. **clearly labeled brushes** (please use registered names and registration numbers, if available)
- b. **full payment including for the brushes we sent you**
- c. **copy and fill out the reverse side for each cat** (3 generation pedigree optional, but appreciated)

The package should be sent by Priority Mail to:

Dr. John C. Fyfe
Laboratory of Comparative Medical Genetics
2209 Biomedical Physical Sciences Bldg
Michigan State University
East Lansing, MI 48824-4320

How will I be informed of the result?

The result(s) will be mailed to you using the return address that you supply. You will receive a Certificate with the name of the cat and the result. We regret that we cannot give out results over the telephone, but we will email if an E-address is provided. Communication with the laboratory is most efficient by email. **All results are strictly confidential and will only be released to the person who submitted the samples.**

Lab tracking # _____

Test result _____

**DNA TEST FOR SPINAL MUSCULAR ATROPHY (SMA)
IN MAINE COON CATS (MC)**

Cat's Name:
Registration org. & #:
Color:
Birthdate:
Sire:
Dam:
Owner:
Owner address:
Submitter Email:
Mail results to:
(Submitter)

Pedigree for:
