

Crop ears in Highland Cattle genetic testing form

Highland Cattle with crop ears show ears with slight to severe notches on the tip of both ears. In some cases cartilage deformation can be seen and rarely the ears are shortened. Furthermore, it might be difficult to notice smallest notches. Even a cattle with apparently normal ears can carry the mutation and pass it on. The crop ear mutation is inherited as single autosomal dominant trait. The test will be based on the causative mutation we have identified and will accurately provide the genotype. Therefore, it can be attested if an animal is **free** of the mutation for crop ears (**CE-0**), or if it carries a single copy of the mutation (**CE-1; heterozygous**). Cattle with the genotype CE-1 are generally affected with crop ears and transmitting the mutation to 50% of the offsprings. Cattle with severely modified ears are carrying two copies of the causative mutation (**CE-2**) and are therefore **homozygous**. Animals with the genotype CE-2 are passing one copy of the mutation to each offspring.

The genetic test costs **90.-- CHF** respectively **90.-- EUR**. Please consider 2-8 weeks until receiving the result. Following samples can be submitted:

- **EDTA-blood** (approx. 5-10 ml in a plastic tube)
- **Hairroots** (approx. 50 firm, clean hairs with visible roots;
please do not cut the hairs, but rather pull them out and wrap them into a small bag.)
- **Sperm** (1-2 unfrozen doses)
- **Tissue** (ear punch tissue or a few gramms of frozen muscle tissue)

Please label all samples clearly and permanent with the animal name and breeding ID. Bags with hair or tissue samples have to be marked with an analog self-adhesive label.

All samples are to be sent without cooling in a padded envelope to:

Institute of Genetics
Stichwort „Kruppohren-Test“
Bremgartenstrasse 109A
CH-3001 Bern

Please direct any further questions to Prof. Dr. Cord Drögemüller
E-Mail cord.droegemueller@vetsuisse.unibe.ch
Phone +41 (0)31 631 25 29

Animal in question **Name & breeding ID**

Date of birth

Sex (m/f)

Coat colour

Notches (please check) **none** **slight** **clear** **severe**

Cartilage deformation **no** **yes**

Ear length **normal** **mildly** **severly shortened**

Owner

Address

E-Mail

Owner's declaration of consent

I agree to genetic testing in the animals indicated above. I also agree that the test result and sample material may be used for further scientific research. Finally, **I agree that the resulting data may be passed to the breeding organization where the herdbook is kept (cross out if not applicable).**

Date

Signature

Confirmation of correct sampling and animal identity

Date

Veterinarian (stamp & signature)