MASSEY UNIVERSITY
TE KUNENGA KI PŪREHUROA
UNIVERSITY OF NEW ZEALAND

VETERINARY, ANIMAL AND BIOMEDICAL SCIENCES

Equine Parentage & Animal Genetic Services Centre

Screening Test for Spider Lamb Syndrome

Spider lamb syndrome, or inherited chondrodysplasia, is a genetic disorder which occurs in Suffolk sheep. Affected lambs are born with long, spindly, bent legs, giving them the appearance of “spiders”, hence the name of the syndrome. As affected lambs have greatly reduced mobility and fitness, they usually die within the first year.

The defect is caused by a recessive mutation in the fibroblast growth factor receptor 3 (FGFR3) gene, resulting in abnormal differentiation of cartilage to bone in affected sheep.

Hereditary chondrodysplasia was first described in the 1980s in North American Suffolk and Hampshire sheep. In 1984, Suffolk rams and ewes from the United States were imported into Australia and in 1987 a lamb with chondrodysplasia was identified. The affected lamb’s dam was a daughter of one of the original imported rams. The affected lamb’s sire was the other imported American ram. In 1992 progeny of the American origin Suffolks in Australia were imported into New Zealand. Because of the concerns that SLS may have been introduced with this importation, a study was carried out which determined that the imported Suffolk rams carried the gene for SLS.

Hereditary chondrodysplasia occurs only in sheep carrying two copies of the affected gene for SLS (homozygous SS) while carrier animals (heterozygous NS) and non-carrier (homozygous NN) animals show no signs of the condition. As the condition is inherited as a simple autosomal recessive, affected animals must have two carrier parents. The gene can spread among flocks by the use of carrier rams. The point mutation in the gene responsible for SLS has been identified and a relatively straight forward test developed for the identification of sheep carrying one or two copies of the defective gene.

Submitting samples for SLS screening

Please use our Test Submission form to submit your blood samples.

Clients should note that test results are sent ONLY to the person who SUBMITTED the samples. Therefore, the sample submitter is responsible for forwarding those results to other relevant parties.

The cost for SLS screening is currently NZD$30.00 (inclusive of GST) per sheep.

We require whole blood in EDTA; please submit 2x purple top tubes per sheep.

Equine Parentage & Animal Genetic Services Centre

Send your blood sample and submission form to:
Attention: Janine Kenny
Equine Parentage & Animal Genetic Services Centre
Drysdale Drive, PN811
Massey University
Palmerston North 4442

All enquiries regarding this service should be directed to:
Equine Parentage & Animal Genetic Services Centre
Phone: (06) 951 6472 or 0800 MASSEY extension 83472
Email: admin.epags@massey.ac.nz

Terms and Conditions of SLS Testing

The owner acknowledges and understands that the DNA test for ovine hereditary chondrodysplasia (Spider Lamb Syndrome) is performed to the highest scientific standards. However, the test is not warranted to be infallible and other physical conditions may have similar characteristics to Spider Lamb Syndrome. Furthermore, improper blood collection or delivery may render inconclusive or invalid the results of the testing performed under this agreement.

The owner agrees to indemnify, and hold harmless, individually and collectively, Livestock Molecular Research and Development, Inc., its owners, officers, employees and authorized agents, together with their successors, heirs or assigns (the Indemnities): from and against any and all claims by the Owner or any third party rising out of or incidental to the performance of this agreement. The Owner agrees that such indemnity includes the duty to zealously defend and hold the Indemnities harmless at no costs and expenses including investigation costs and expenses, costs and expenses associated with enforcing this agreement, any and all legal costs and expenses including attorney fees and discovery costs.

Test results are sent only to the sample submitter. The sample submitter is responsible for forwarding those results to any other relevant parties.