



Colorado Department of Agriculture Rocky Mountain Regional Animal Health Laboratory

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Scrapie Susceptibility Genotyping Sample Submission Protocol

1. Collect blood samples in purple top (EDTA) tubes (preferably plastic). Plastic purple top tubes and needles may be purchased from the Rocky Mountain Regional Animal Health Laboratory (RMRAHL).
2. Use a **new needle (and syringe)** for each animal tested. The genotyping test is sensitive enough to detect small quantities of contaminating blood that may cause an invalid test.
3. Collect > 2 cc of whole sheep blood in purple top tubes, and **mix samples by inversion 5-6 times as soon as the blood is drawn**. Number the samples in sequence with the submission form. An **APHIS VS Form 5-29** must be signed and dated by an accredited or regulatory veterinarian for National Scrapie Eradication Program (NSEP) official tests (along with official animal identification).
4. Designate which codons (171 or 136 or both) should be tested. RMRAHL is approved by USDA/APHIS to perform genotyping for the sheep prion gene at codons 136 and 171.
5. USDA recommends wiping any blood off the outside of the tubes and tops to avoid the possibility of cross contamination.
6. Samples should be shipped in an insulated container with icepacks to arrive at the laboratory within 72 hrs. of sampling. RMRAHL FedEx Airbills are available for shipping samples to the laboratory at a reduced cost.
7. The following are USDA's Scrapie Eradication Program genotype designations for susceptibility in sheep (from www.aphis.usda.gov/vs/nahps/scrapie/scrapie_genetics.pdf):

Codon 136 codes for V or A. Codon 154 is not a consideration in the US Scrapie Eradication Program at this time. Codon 171 codes for Q, R, K or H, and the presence of H at 171 is presently thought to be equivalent to Q. K's susceptibility is not known.

	Codon 136	Codon 171
Nearly resistant:	AA	RR
Rarely susceptible:	AA	RQ
Somewhat susceptible:	AV	RQ
Susceptible (3 genotypes):	AA	QQ
	AV	QQ
	VV	QQ