

**December 2019**

Happy holidays from Etalon Diagnostics!

We're very excited to be a partner of the Appaloosa Horse Club. Our goal at Etalon is to improve the health, wellbeing, and performance of horses with the help of those that know them best – horse people. Appaloosa's unique coloring presents us with countless research opportunities including the test for the "[Leopard Spotting Complex](#)" (LP) which is included in [our Mini Panel test](#). Leopard Spotting Complex is only one of the many phenotypic mysteries for us to expand on – phenotypes that define the Appaloosa breed.

"LP" positive horses typically display mottled skin, white sclera, striped hooves, progressive roaning, and white markings blanketed along the back. Homozygous leopard spotted horses (LP/LP) look different than heterozygous horses (LP/lp). Areas of white on heterozygous horses have fully pigmented oval spots, while homozygous horses show few to no spots. This pattern of inheritance is known as "incomplete dominance". Another gene, "[Pattern-1](#)" ([PATN1](#)) modifies the expression of leopard complex spotting. Horses with PATN1 are generally born with about 60% by LP-associated white spotting, as opposed to 40% for those without it.

Two major genetic mysteries we'd like to solve are the dilution causing the "Varnish" phenotype and the [unknown gaited variant](#) responsible for the "Appaloosa Shuffle". We suspect Varnish may be tied to leopard complex spotting, but we're unsure what else affects this unique coloration.

Appaloosas are truly unique and the incredible variety of colors, patterns, and subtle differences in this breed of horse are a scientist's paradise with so much yet to learn! Owners are the key to unlocking these genetic secrets and in working together everything moves forward so much faster and more accurately - collaborate!

The more horses we test, the more we learn. What Appaloosa traits are you interested in learning about? Let us know: <https://www.facebook.com/etalondx/>

***ApHC Notice: Bureaus Veritas Laboratories, formally known as Maxxam Analytics Inc., are our official, approved DNA testing lab and must be used for registration purposes. See Rule 239.E of the Official Handbook of the ApHC. Etalon Diagnostics is a genetic educational partner.***

**Rule 239 E.**

Horses eligible for Non-Characteristic (N) registration, or registered as N and denied advancement after all properly completed advancement requirements have been submitted to the satisfaction of the Registrar, may advance to Regular through Leopard Complex (LP) genetic testing if all of the following requirements are met.

1. Horse must be parentage verified and LP tested through an ApHC-approved laboratory using ApHC-approved testing procedures;
2. The genetic sample used for the horse's parentage verification must also be used for the LP test;
3. The LP test results must be positive and will be noted as such on the horse's ApHC Certificate of Registration;
4. Properly completed genetic test request forms are available from the ApHC, must be submitted prior to genetic testing, and may be submitted along with the initial application for registration.