



## Equine Male Reproductive Function Tests

Testosterone is generally measurable in intact males starting at one year of age, though levels are often lower when compared to mature stallion levels. Estrone sulfate is useful for detecting testicular tissue in males three years of age and older. Our laboratory offers a Cryptorchid Panel which includes measurements of testosterone and estrone sulfate from a single sample. A high value in either or both of these hormones indicates the presence of testicular tissue. The hCG-response test is recommended in cases where the Cryptorchid Panel results are indeterminate or if there is any question of exogenous steroid use.



### Testosterone Baseline

The testosterone baseline test is useful to assess functionality in normal stallions. It is primarily used for distinguishing fully castrated males from those with retained testicles or testicular remnants. Cryptorchid testicles often produce less testosterone than normal testicles. For accurate diagnosis it is recommended that the hCG-response test be used initially or as follow up to the testosterone baseline test. Horses should be at least 1 year of age.

### Estrone Sulfate Baseline

Mature testicular tissue produces estrone sulfate. Horses should be three years of age or older when using this test for diagnosis of cryptorchism. Appropriate reference ranges for cryptorchid males and stallions have been established for our test. This test can be followed by an hCG-response test to confirm the diagnosis.

**Note:** *Our estrone sulfate test should not be used for any equids other than the domestic horse to determine this condition.*

### Cryptorchid Panel

The cryptorchid panel offers measurements of two hormones from a single sample at a reduced cost. Two tests increase the chance of diagnosing a cryptorchid animal with a single farm call, and may negate the need for an hCG-response test. Equivocal responses to both tests are rare, but can be followed up with an hCG-response test to clarify reproductive status.

### hCG-Response Test for Male Horses

The hCG response test is the most reliable test for detecting functional testicular tissue. It is useful for assessing testicular function in breeding stallions. It is also useful for distinguishing fully castrated animals from those with retained testicles or testicular remnants. The response test is more accurate than a single baseline in cryptorchid horses because cryptorchid testicles often produce less testosterone than normal testicles. Testosterone response to hCG should be present, but may be decreased in these animals when compared to normal stallions. This test can clarify equivocal Cryptorchid Panel results.

1. Draw a baseline blood sample as described below.
2. Inject 10,000 IU of hCG (human chorionic gonadotropin) intravenously. For mini-horses, inject 2,500 IU of hCG intravenously.
3. Collect an additional sample 2 hours after hCG injection

**Note:** *GnRH cannot be substituted for hCG when response testing horses.*

### Guidelines for Sample Collecting and Processing:

1. Collect blood into a plain red-top collection tube. Refrigerate sample.
2. Allow blood adequate time to clot prior to centrifugation to ensure sufficient yield and avoid fibrin formation.
3. After centrifugation, transfer the serum into a vial suitable for shipping or frozen storage. Frozen sample storage is recommended unless samples are being shipped the day taken.
4. Ship samples with cold packs. A frozen specimen is not necessary, but the sample should arrive chilled.
5. Horses should be at least 1 year old when testing testosterone, 3 years old for estrone sulfate.
6. Male equids other than the domestic horse should be tested for testosterone, not estrone sulfate.
7. hCG-response samples should be shipped together.