



## Feline Reproductive Function Tests

### Anti-Müllerian Hormone (AMH) Test for Ovarian Remnant Syndrome and Determination of Spayed/Castrated vs. Intact



Ovarian remnant syndrome testing consists of AMH and progesterone testing on a single sample. A positive AMH test is consistent with the presence of an ovarian remnant, but a negative AMH test does not rule out the presence of a remnant. The progesterone level is especially important when the AMH is negative. The cell population starts producing progesterone instead of AMH after ovulation, so high progesterone levels with an inconclusive or negative AMH is also diagnostic for an ovarian remnant.

The qualitative AMH test for cats can distinguish between spayed and ovarian intact queens after they have reached the age of sexual maturity and between castrated and intact/cryptorchid males from birth. A negative AMH test is consistent with a spayed female or castrated male, whereas a positive AMH test indicates the presence of ovarian or testicular tissue. Inconclusive results are usually the result of remnant situations.

**Note:** Intact females tested after reproductive senescence may have a negative AMH test.

1. Draw a baseline blood sample in a plain red-top collection tube with no additives (*i.e. no clot activators, gels, etc.*).
2. Allow blood sufficient time to clot at room temperature to avoid fibrin formation. The specimen should be refrigerated if time before centrifugation will be greater than 1 hour. It is recommended that samples spend 4 hours or less on the cells.
3. Centrifuge at a speed and time that will allow for adequate separation and sufficient sample yield (0.5 mL recommended).
4. Transfer serum to a vial (*plastic preferred*) suitable for shipping and frozen storage. Freeze serum if time before shipping to the laboratory will be 12 hours or more.
5. For accurate AMH testing, the sample should be received at least “cold or partially thawed.” Sending serum packed with cold or frozen cold packs using an overnight courier service will usually ensure the sample is received chilled.

**Note:** Avoid use of serum separator tubes due to possible assay interference in some instances.

### Progesterone Test for Detection of Ovarian Remnants in Cats using GnRH or hCG

If ovarian tissue is present as a result of incomplete ovariohysterectomy, follicles will develop naturally or can be artificially developed with exogenous FSH (follicle-stimulating hormone). In either case, ovulation must be induced with exogenous GnRH (gonadotropin-releasing hormone) or hCG (human chorionic gonadotropin).

*GnRH is preferred over hCG because of a decreased risk of an anaphylactic reaction.*

#### For cats in heat now:

1. Inject 25 µg of GnRH intramuscularly **or** 250 IU of hCG\* subcutaneously.
2. Collect a blood sample approximately 10 days after GnRH or hCG injection.
3. Follow the sample processing procedure (steps 2-4) above and request progesterone analysis.

### GnRH- or hCG-Response testing Testosterone for Males

The GnRH- (gonadotropin-releasing hormone) or hCG- (human chorionic gonadotropin) response tests are useful for distinguishing fully castrated males from those with either retained or missed testicles or testicular remnants, especially in fall and winter months when queens are anestrus. AMH testing is preferred to testosterone because AMH is not affected by seasonality or (lack of) sexual maturity.

*GnRH is preferred over hCG because of a decreased risk of an anaphylactic reaction.*

hCG: 1 IU = 1 USP, 1500 USP = 1 mg hCG

1. Draw a baseline blood sample in a plain red-top clot tube. Label this sample “pre”.
2. Inject 2.2 µg/kg of GnRH intramuscularly **or** 250 IU of hCG\* subcutaneously.
3. Collect an additional blood sample 2 hours after injection. Label this sample “post”.
4. Follow the sample processing procedure (steps 2-4) above .
5. The paired samples should be submitted and tested together.