

MIP/PMSG EQUINE PREGNANCY TEST



Outline

Pregnant Mare Serum Gonadotrophin (PMSG), also known as Equine Chorionic Gonadotrophin, is secreted by the endometrial cups of the pregnant mare. The endometrial cup is a placenta-associated structure derived from the foetus which forms several weeks into gestation and is destroyed immunologically several months later. The hormone PMSG is found in the blood of the pregnant mare in significant amounts between 40 and 100 days of gestation in the average mare, peaking at approximately 60 days gestation. After 100 days reliable results are no longer produced due to the destruction of the endometrial cups.

This test determines the presence of PMSG molecules in the maternal circulation. However if the foetus dies after the development of the endometrial cups, the endometrial cups remain and are eliminated in the same time frame as they would be in a viable pregnancy. This can lead to false positive results.

NOTE: Donkeys are able to maintain pregnancy at much lower hormone levels than horses. While a positive result may be considered accurate a negative result should be considered “inconclusive”. The most accurate method of pregnancy diagnosis for donkeys is ultrasound.

TEST: MIP/PMSG ELISA

Species: This test is only validated for female equine samples (horses, ponies and miniature horses). Donkeys can be tested using this test but a negative result **does not** rule out pregnancy. The test is not suitable for cattle, sheep, goat, deer or alpacas.

Sample type: Serum (red top) only.

Turnaround Time: 2-4 days after receipt of sample at the lab

Results: The results for this test are reported as Positive, Equivocal or Negative

MIP (PMSG) ELISA – POSITIVE

This result indicates the mare is pregnant. PMSG is detectable from 40-100 days post-mating. A false positive may occur if there has been death of the foetus after day 40 when the endometrial cups have formed. Oestrone Sulphate testing is recommended at > 100 days post-mating to confirm.

MIP (PMSG) ELISA – NEGATIVE

This result indicates the mare is not pregnant if the blood was obtained between 40 - 100 days post-mating. If the sampling date is later than 100 days post-mating, an Oestrone Sulphate test is recommended.

MIP (PMSG) ELISA – EQUIVOCAL

This result indicates that there is a low level of PMSG (25-100 mIU). PMSG is detectable from 40-100 days post mating. If the sample was taken close to 40 days post-mating, it is recommended that a re-bleed be done and a repeat PMSG ELISA. If the sample was taken closer to 100 days post-mating an Oestrone Sulphate test could be considered.

Donkey comments

MIP (PMSG) ELISA – POSITIVE

This result indicates the donkey is pregnant. PMSG is detectable from 40-100 days post-mating. A false positive may occur if there has been death of the foetus after day 40 when the endometrial cups have formed. Donkeys are able to maintain pregnancy at much lower hormone levels than horses.

MIP (PMSG) ELISA – NEGATIVE

The MIP (PMSG) test will detect PMSG hormone levels that are greater than, or equal to, 100 mIU in pregnant equines 40-100 days post-mating. Donkeys are able to maintain pregnancy at much lower hormone levels than horses; therefore, this result may not truly reflect the pregnancy status of the donkey. The most accurate method of pregnancy diagnosis for donkeys is ultrasound.

MIP (PMSG) ELISA – EQUIVOCAL

This result indicates that there is a low level of PMSG (25-100 mIU). PMSG is detectable from 40-100 days post mating. Horses are considered pregnant if their PMSG level is \geq 100 mIU. Donkeys are able to maintain pregnancy at much lower hormone levels than horses; therefore, this low level PMSG result may indicate the donkey is pregnant.

If the sample was taken close to 40 days post-mating, it is recommended that a re-bleed be done and a repeat PMSG ELISA. If the sample was taken closer to 100 days post-mating an Oestrone Sulphate test could be considered. However, a donkey may maintain a viable pregnancy but not produce detectable levels of Oestrone Sulphate either. The most accurate method of pregnancy diagnosis for donkeys is ultrasound.

**Any questions regarding this test, contact the Serology Dept on our NZVP
Freephone Number: 0800 838 522 ext 2**