Vcheck
cProgesterone

BIONOTE Marketing team

Feb. 2020

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01 Progesterone

- What is Progesterone?
- Application
- Guidelines

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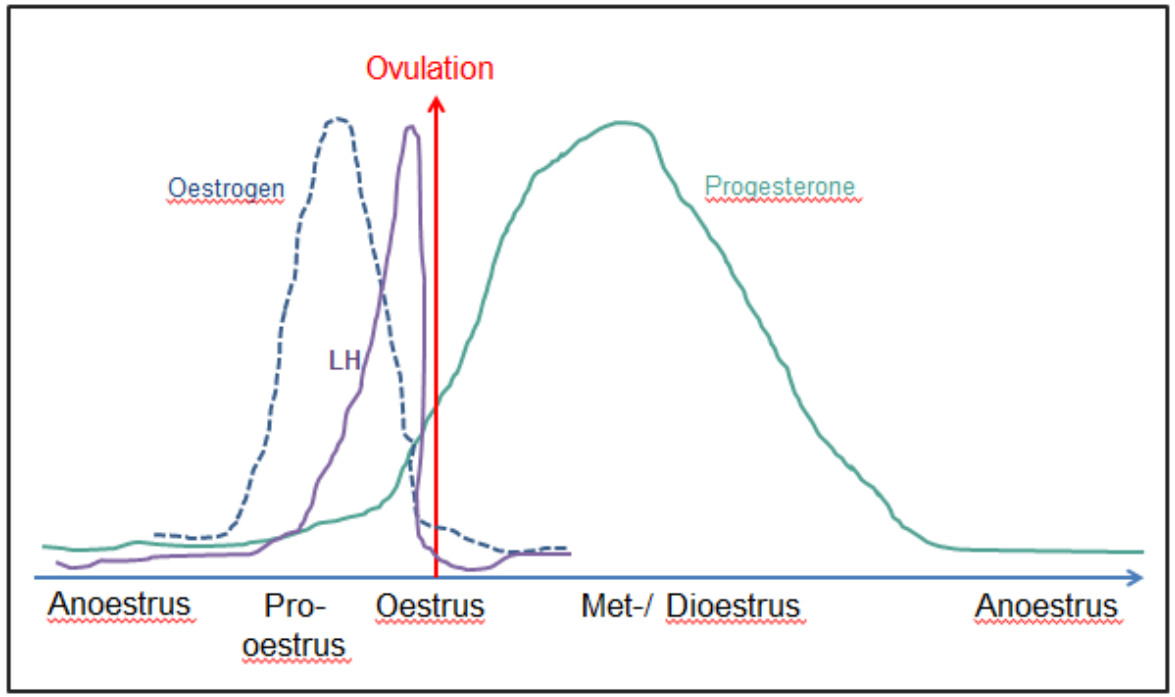
01 Progesterone

What is Progesterone?

- Progesterone is a steroid hormone and part of the group of sex hormones. **The reproduction cycle** is the results of a rise and drop of different sex hormones.

- **Anestrus** : Resting ovary
- **Proestrus** : Ovarian follicles growing, Estrogen ↑
  Edema of the vulva, sanguineous discharge
- **Estrus** : Preovulatory luteinization of follicles. **Progesterone ↑**
  LH peak →(2 days) → Ovulation
  Clearer vaginal discharge, less oedematous vulva
  Allow mating of the male dog.
- **Diestrus** : Corpus luteum, Continuous rise in PRG



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01 Progesterone

Application

Species	Purpose
Canine	▪ **To determine optimal breeding dates. (Primary purpose)** ▪ To predict parturition dates or time a Cesarean section. ▪ To detect reproductive disorders such as split heats, delayed puberty, silent estrus or hypoluteidism.

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Application

- Start **serial progesterone measurements** 3 to 4 days after a bloody vulvar discharge is **first** noted.
- Continue progesterone testing every other day until determination of ovulation and onset of the fertile period.

< 1.0 ng/mL (< 3.18 nmol/L)	1.0 – 1.99 ng/mL (3.18 – 6.33 nmol/L)	2.0 – 2.99 ng/mL (6.36 – 9.51 nmol/L)	3.0 – 4.99 ng/mL (9.54 – 15.87 nmol/L)	5.0 – 12.0 ng/mL (15.90 – 38.16 nmol/L)	> 12.0 ng/mL (> 38.16 nmol/L)
Anestrus or proestrus	Pre-LH surge	LH surge	Post-LH surge, Pre-ovulation	Ovulation (It may vary with breed and size.)	Post-ovulation

* 1 ng/ml is equal to 3.18 nmol/L.

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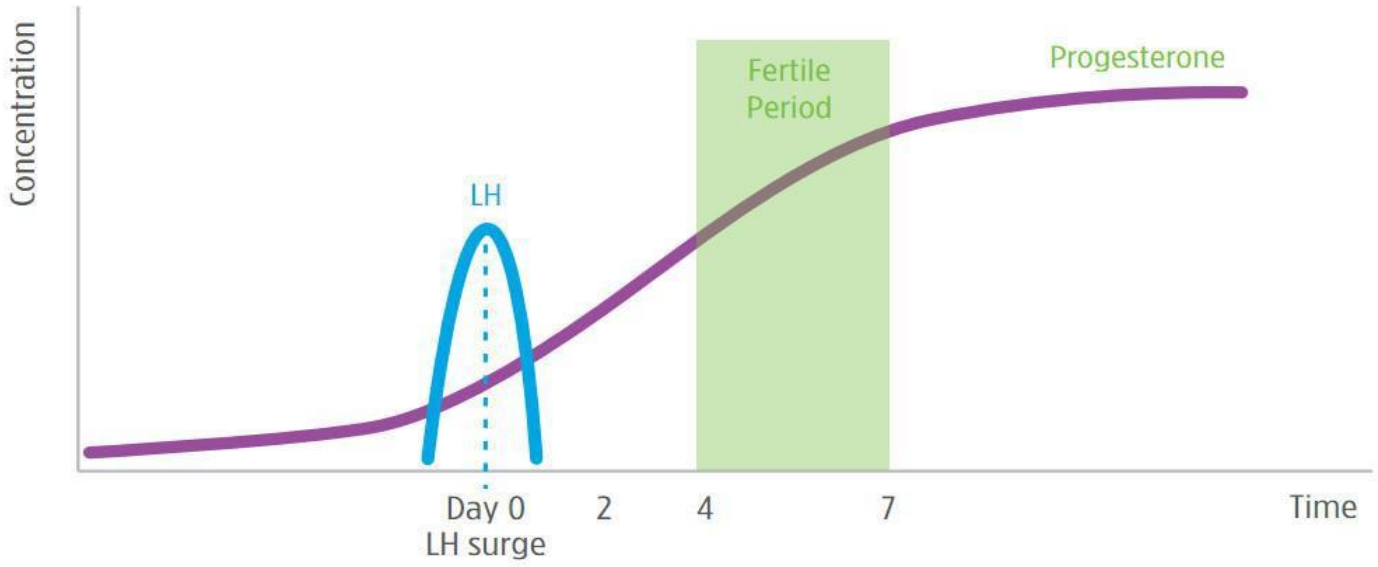
Guidelines

Peak fertility typically occurs 4-7 days after the LH surge (or 2-5 days after ovulation).



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Guidelines

- Natural breeding – ideally breed every other day while the female is showing signs of standing heat. If only 2 breedings will be performed, attempt to breed 4 and 6 days after the progesterone predicted LH surge.

- Fresh or chilled semen – ideally inseminate 3 and 5 days after the progesterone predicted LH surge.

- It may vary with individual dogs.

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02 Product Introduction

Vcheck cProgesterone

- Specifications
- Key Features
- Test Procedure
- Reference Range
- Performance

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02 Product Introduction

Vcheck cProgesterone

- Specifications

✓ **Species** : Dog
✓ **Sample** : Serum 50 µl
✓ **Testing Time** : 15 minutes
✓ **Measurement** : Quantitative
✓ **Measurement Range** : 1.0 – 30.0 ng/mL
✓ **Storage Condition** : 2- 8 °C

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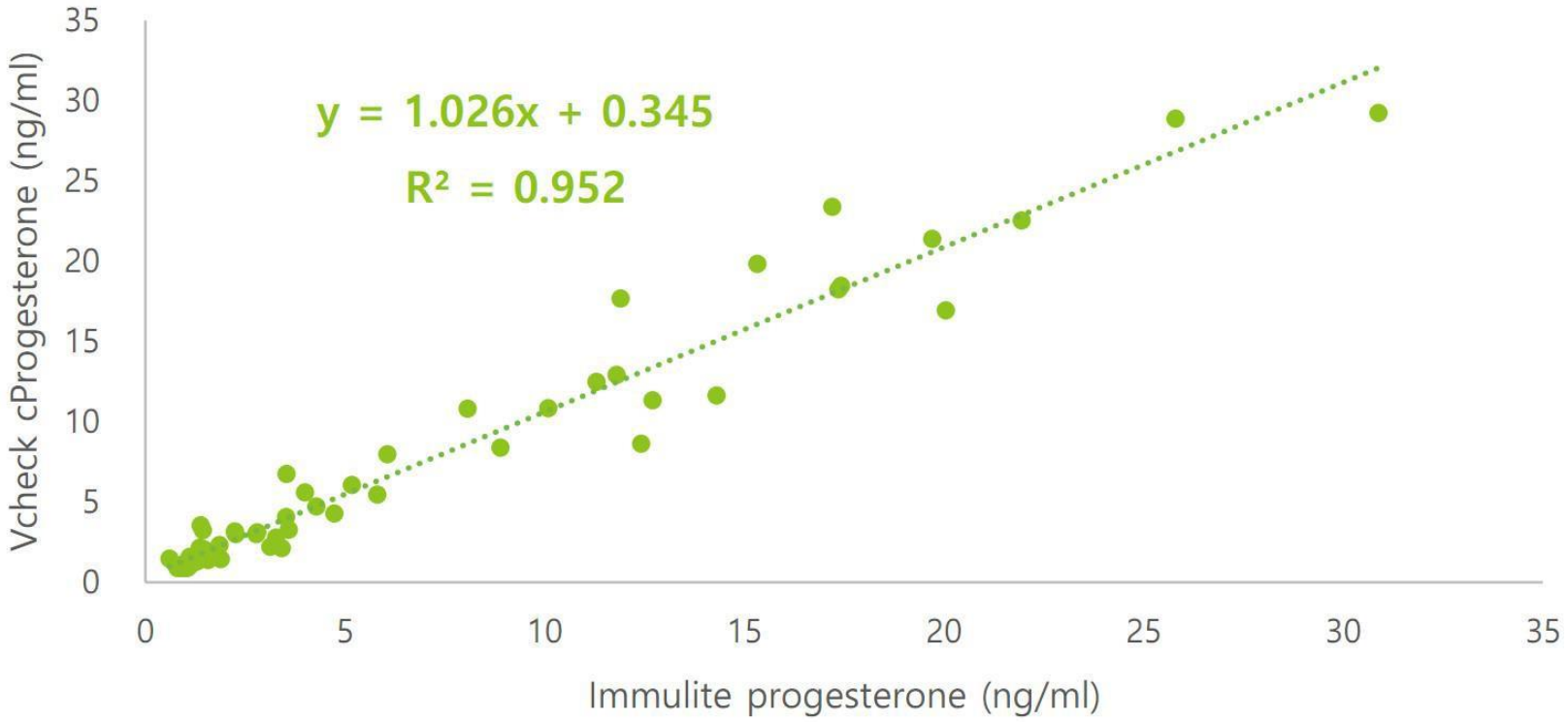
Performance

- Vcheck cProgesterone demonstrates excellent correlation with IMMULITE that used in reference laboratories.
- Vcheck cProgesterone can provide an accurate and reliable results in-house.



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Precaution

- Do not use SST (serum-separating tube)
- Hemolyzed samples or serum with precipitate such as fibrin may give erroneous results
- Sample storage Refrigerated (2 - 8℃): 7 days
  Frozen(-20℃): 6 months
- 1 ng/ml is equal to 3.18 nmol/L

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Precaution

- Cross reactivity with other steroid hormone

Cross-Reactivity substance		Cross(%)
Estrone	10ng/ml	<1%
Estriol	100ng/ml	<1%
b-Estradiol	20ng/ml	<1%
17a-hydroxyprogesterone	100ng/ml	5.64%
Cortisol	1000ng/ml	<1%
Cortisone	500ng/ml	<1%
Corticosterone	100ng/ml	<1%
21-Deoxycortisol	1000ng/ml	<1%
Danazol	1000ng/ml	<1%
5-Pregnen-3β-ol-20-one	200ng/ml	3.94%
5α-Pregnane-3,20-dione	200ng/ml	5.14%
17α,20β-Dihydroxy- 4-pregnen-3-one	200ng/ml	<1%
Pregnenolone	200ng/ml	6.33%

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01 Progesterone

Competitor

	BioNote	Eurolyser	Fuji	Boditech	Healvet
					
Analyzer	Vcheck V200	Solo/Cube-vet	Dri-chem immuno au10v	Vet chroma	HV-FIA3000
Species	Canine	Canine	Canine	Canine	Canine
Specimen	Serum 50 ul (Plasma will be add)	Serum/plasma 40/5 ul	Serum/plasma 100 ul	Serum/plasma 100 ul	Serum/plasma 75 ul
Measurement time	15 min	8 min	10 min	15 min	15 min
Dynamic range	1 – 30.0 ng/ml	1.2 – 8.0 ng/ml 6.0 – 20.0 ng/ml	0.2 – 40.0 ng/ml	1 – 25 ng/ml	1 – 50 ng/ml
Storage	2-8 ℃	2-8 ℃	2-8 ℃	2-8 ℃	4-30 ℃
Size	10T	6T	10T	6T	10T

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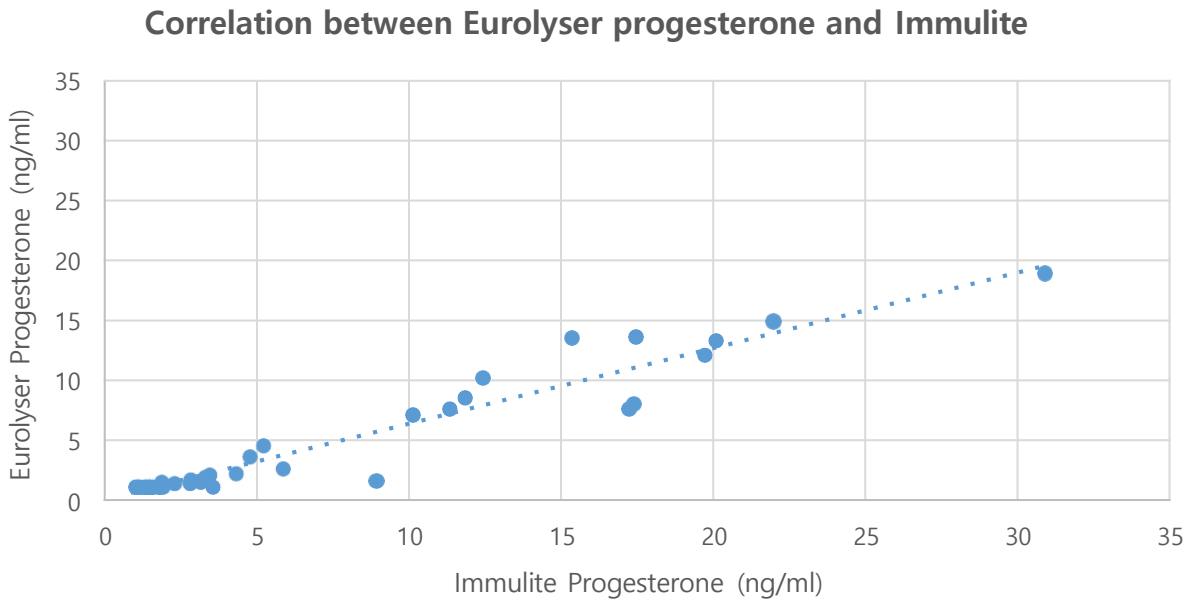
Competitor – Eurolyser

- Eurolyser canine progesterone demonstrates low accuracy in comparison with reference method (Immulite progesterone) in internal study.



slope

$y = \mathbf{0.6301}x + 0.2084$

$R^2 = 0.9278$

Slope has to be within 0.8 - 1.2 according to Eurolyser's evaluation report.

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Thank you

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Jan. 2020