

# Evaluation of correlation between Bionote Vcheck and an ELISA method for canine TSH and T4

**Key Words:** Bionote, Vcheck, V200, T4, TSH, Canine hypothyroidism

## Introduction

Canine hypothyroidism is one of the most common canine endocrine diseases. Hypothyroidism results from impaired production and secretion of thyroid hormone. 95% of cases are due to destruction of the thyroid gland itself.

Today, the diagnosis of hypothyroidism relies largely on assessment of basal thyroid hormone analyses and endogenous canine TSH. The diagnostic specificity of canine TSH measurement is enhanced by combination with another assessment of thyroid function, such as total T4. High concentrations of canine TSH in association with low concentrations of total T4 likely represent primary hypothyroidism with a high degree of specificity.

## Purpose

The objective of this test was to conduct a comparison of TSH and T4 concentrations between the Vcheck and Microplate Reader Thermo Scientific™ used in reference laboratories, in order to ensure that there are no significant differences between the results.

## Materials and Methods

Total 20 canine serum samples were analyzed with Vcheck V200 and Microplate Reader Thermo Scientific™ according to the manufacturer's instruction.

A comparison of methods were performed to validate analytical methods.

## Reference method

- Device: Microplate Reader Thermo Scientific™
- Reagent: ELISA Demeditec (Canine TSH, Canine T4 total)

## Method to validate

- Device: Vcheck V200
- Reagent: Canine TSH, Canine T4 total

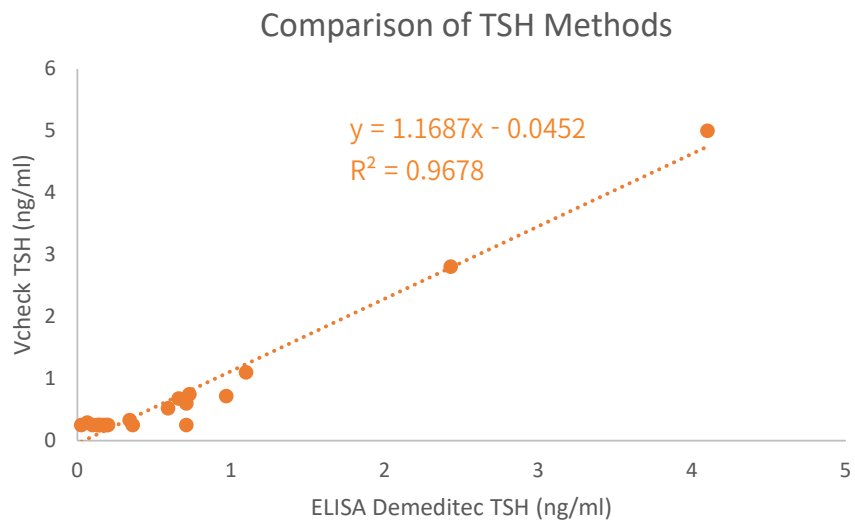
## Results

The test results for the correlation of TSH and T4 between Bionote Vcheck and ELISA Demeditec are shown in figure 1 and figure 2.

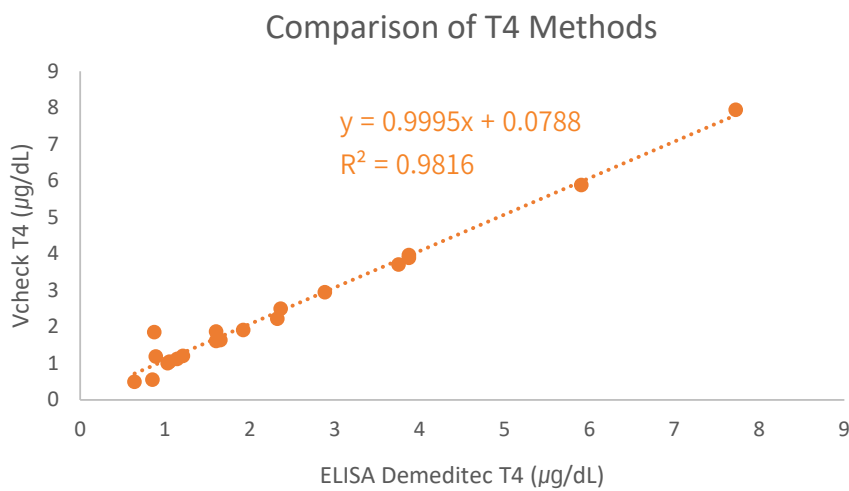
## Conclusion

This study indicates that Vcheck TSH and T4 have high correlation with a ELISA method used in the LABORVET laboratory (cTSH;  $R^2=0.9678$ , canine T4;  $R^2=0.9816$ ).

Based on these results, the Vcheck TSH and T4 provide accurate and reliable test results in serum samples from dogs, as compared to an ELISA reference method.



**Figure 1.** Correlation between the results of Vcheck TSH and ELISA Demeditec TSH in canine samples (n=20)



**Figure 2.** Correlation between the results of Vcheck T4 and ELISA Demeditec T4 in canine samples (n=20)

**Reference**

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 Johan P. Schoeman: Canine Hypothyroidism. World Small Animal Veterinary Association World Congress Proceedings, 2011.