

## TSH canine ELISA Cat.-No.: DEM-DEV9955

The DEMEDITEC TSH canine ELISA is an enzyme immunoassay for the quantitative measurement of canine TSH (thyrotropin).

Technology	: ELISA
Kit size	: 96
Sample material	: canine serum, plasma
Sample preparation	: -
Sample volume	: 100µl
Standard range	: 0.2 - 5.2 ng/ml
Incubation	: 2h (skaking), 30min at RT
Measuring system	: TMB 450nm
Sensitivity	: 0.01 ng/ml

### Special remarks:

Thyroid stimulating hormone (TSH, thyrotropin) in dogs is similar in function to TSH found in other mammalian species, including humans. It is a glycoprotein produced by the anterior pituitary gland. Through its action on the thyroid gland, it plays a major role in maintaining normal circulating levels of the iodothyronines, T4 and T3. The production and secretion of TSH is controlled by negative feedback from circulating T4 and T3, and by the hypothalamic hormone TRH (thyrotropin releasing hormone). The TSH molecule is composed of two nonidentical subunits, a and b, that are bound together in a noncovalent manner. Within a species, the TSH a subunit is structurally identical to the a subunits of the related glycoprotein hormones (LH, FSH and chorionic gonadotropin). The b subunit of TSH and the b subunits of the related hormones are structurally hormone-specific, and confer upon them their unique biological activities.

Hypothyroidism is considered to be a common endocrine disorder in dogs, whereas hyperthyroidism in this species is nearly unknown. Most cases of canine hypothyroidism are primary in nature, involving impaired production of the thyroid hormones, T4 and T3. In this condition, elevated TSH levels are expected. Secondary or tertiary hypothyroidism, where thyroid hormone production is low as a consequence of hypothalamic or pituitary disease, is believed to account for less than 5% of canine hypothyroidism cases. In the latter conditions, lowered levels of TSH would be expected. Usually, hypothyroidism in dogs is suspected on the basis of clinical history and the presence of lowered levels of thyroid hormones. However, suppressed thyroid hormone levels are nonspecific indicators of the disease, since they are often observed in nonthyroid illnesses. The evaluation of thyroid function and the diagnosis of hypothyroidism in dogs can be greatly improved through the use of the valid assay for the determination of canine TSH.