

# VETERINARY TECHNICAL DATASHEET

Congenital Hypothyroidism; mutation originally found in Tenterfield Terrier



Mutation Found In :Tenterfield Terrier

## Disorder Type

- Hormonal

## Disease Severity

- Moderate

## Background

Acquired hypothyroidism is common in middle aged and older dogs. In addition to the acquired form of the disease, congenital hypothyroidism is also encountered in dogs, but is more rare. The clinical signs of the congenital form are very different from those of the acquired form. The tested mutation causes hypothyroidism in Tenterfield Terriers and the results from this test cannot be applied to other breeds.

## Key Signs

- Slow growth
- Drowsiness
- Disproportionate dwarfism
- Goiter
- Mental impairment
- Abnormal hair coat

## Clinical Description

Affected puppies appear normal at birth, with slowed growth usually observed around 3 to 8 weeks of age. Disproportionate dwarfism is typical for affected puppies: they have wide heads, short and thick necks, and short limbs. Affected puppies show mental impairment and their puppy coats are not replaced with the adult coat. Delayed opening of eyes and ear canals and delayed teething may be observed. Goiter (swelling and enlargement of the thyroid gland) is also observed. The disease may lead to death during the first weeks of life due to failure to thrive.

## Mode of Inheritance

- autosomal recessive

## Gene Name

- TPO

## Next Steps

Most clinical signs will improve or be prevented if the condition is recognized early and thyroid replacement therapy is instituted. However, the thyroid glands may continue to expand despite treatment which could lead to airway obstruction.

## References

Bojanic K, Acke E, Jones B. Congenital hypothyroidism of dogs and cats: A review. N Z Vet J 59:115-122, 2011.

Dodgson SE, Day R, Fyfe JC. Congenital hypothyroidism with goiter in Tenterfield terriers. J Vet Intern Med 26(6):1350-1357, 2012.

Fyfe JC, Kampschmidt K, Dang V, Poteet BA, He Q, Lowrie C, Graham PA, Fetro VM. Congenital hypothyroidism with goiter in toy fox terriers. J Vet Intern Med 17:50-57, 2003.

Fyfe JC, Lynch M, Olsen J, Lou?r E. A thyroid peroxidase (TPO) mutation in dogs reveals a canid-specific gene structure. Mamm Genome 24(3-4):127-133, 2013.

Pettigrew R, Fyfe JC, Gregory BL, Lipsitz D, Delahunta A, Summers BA, Shelton GD. CNS hypomyelination in Rat Terrier dogs with congenital goiter and a mutation in the thyroid peroxidase gene. Anim Vet Pathol 44:50-6, 2007.