

## VETERINARY TECHNICAL DATASHEET

X-Linked Hereditary Nephropathy, (XLHN); mutation originally found in Navasota Dog



Mutation Found In :Navasota

### Disorder Type

- Urinary

### Disease Severity

- Severe

### Background

X-linked hereditary nephropathy is a kidney disorder observed in a group of mixed breed dogs named Navasota dogs. XLHN affects the glomeruli in the renal corpuscle and is caused by defective type IV collagen in the basal lamina which causes proteinuria and results in juvenile-onset renal failure. It shows an X-linked mode of inheritance, as indicated in the name, and so the severe form of the disease is encountered only in males. In some cases, female carriers can develop a renal disease with milder symptoms.

### Key Signs

- Excessive drinking and frequent urination
- Proteinuria
- Diarrhea
- Vomiting
- Weight loss
- Reduced growth
- Renal failure

### Clinical Description

The main clinical sign of XLHN is proteinuria, which occurs around the age of 3 to 6 months. The disease leads to renal failure and eventually to death of affected males by the age of 9 to 15 months. Clinical signs of renal failure include excessive drinking, and frequent urination. Other possible signs are reduced growth, vomiting, diarrhea, and weight loss. Female carriers might exhibit proteinuria as a sign of mild renal disease, but the condition usually does not lead to renal failure before the age of five.

### Mode of Inheritance

- X-linked

### Gene Name

- COL4A5\_deletion

### Next Steps

Affected male puppies are usually euthanized on welfare grounds because of the severity of the condition. In carrier females, the condition can be partly managed through diet therapy. Dietary options and the importance of diet management should be emphasized to clients.

### References

Benali SL, Lees GE, Nabity MB, Aric A, Drigo M, Gallo E, Giantin M, Aresu L. X-Linked Hereditary Nephropathy in Navasota Dogs: Clinical Pathology, Morphology, and Gene Expression During Disease Progression. Vet Pathol. 2016 Jul;53(4):803-12.