

VETERINARY TECHNICAL DATASHEET

X-linked Severe Combined Immunodeficiency, (XSCID); mutation originally found in Basset Hound



Mutation Found In :Basset Hound

Disorder Type

- Immune system

Disease Severity

- Severe

Background

X-linked severe combined immunodeficiency (X-SCID) is a severe dysfunction of the immune system; this variant is associated with the Basset Hound. The mode of inheritance is X-linked recessive and, therefore, affected dogs tend to be males.

Key Signs

- Immunodeficiency
- Lymphopenia
- Lack of lymph nodes
- Vomiting
- Diarrhea
- Failure to thrive
- Opportunistic infections

Clinical Description

X-SCID is a severe immunodeficiency, which results from abnormally low levels of lymphocytes (white blood cells) and their dysfunctionality. Lymphatic tissue of affected dogs is also underdeveloped. Affected dogs are extremely susceptible to opportunistic infections and typically die at a very young age.

Mode of Inheritance

- X-linked

Gene Name

- IL2RG

Next Steps

Therapy is limited to symptomatic treatments for resulting infections and general supportive care. There is no cure.

References

Henthorn PS, Somberg RL, Fimiani VM, Puck JM, Patterson DF, Felsburg PJ. IL-2R gamma gene microdeletion demonstrates that canine X-linked severe combined immunodeficiency is a homologue of the human disease. *Genomics* 23:69-74, 1994.

Somberg RL, Pullen RP, Casal ML, Patterson DF, Felsburg PJ, Henthorn PS. A single nucleotide insertion in the canine interleukin-2 receptor gamma chain results in X-linked severe combined immunodeficiency disease. *Vet Immunol Immunopathol* 47:203-213, 1995.

