# 02052: Defining the Mechanism of Severe, Life-Threatening Bleeding Disorders in Dogs

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Grant Amount - $51,297

Project Dates: February 1, 2014 - January 31, 2015

**Abstract: Immune thrombocytopenia (ITP) is a common bleeding disorder in dogs. It occurs when the immune system destroys the body's own platelets - blood cells that prevent hemorrhage. The resulting lack of platelets in some dogs causes mild bruising and in others causes severe, life-threatening hemorrhage. Veterinarians do not understand what triggers ITP and cannot predict its severity. Consequently, all ITP patients are treated with potent medications that suppress the entire immune system. Many dogs experience treatment side-effects including excessive thirst and urination, ulcers, weight gain, and recurrent infections. For some dogs, the side-effects, rather than ITP, prove fatal. Dr. LeVine will investigate the specific causes of ITP by measuring immune cells and proteins that are likely involved in platelet destruction. Further, her laboratory will identify protein-based biological markers that predict bleeding severity. Finally, they will define genes associated with the disease in breeds especially prone to ITP. Together, these efforts will benefit ITP patients through individualized therapy that matches treatment intensity with disease severity. Discovery of the immune and genetic causes of ITP will not only improve disease treatment, but ultimately help to prevent it.**

Cash Contribution: $2,500.00

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