Glanzmann Thrombasthenia (GT) in Great Pyrenees Dogs

A bleeding disorder called Glanzmann thrombasthenia (GT) was recognized and described in a Great Pyrenees dog in 1996.[1] GT has been recognized for many years in humans and is due to a congenital/inherited membrane defect in platelets. Platelets are small, circulating cytoplasmic fragments that are the first line of defense in stopping the flow of blood from injured blood vessels. An important aspect of platelet function is their ability to stick to each other and plug holes in damaged vessels until blood clotting and tissue repair can occur. The platelets of people and dogs with GT are defective in their ability to stick to each other. Therefore, these individuals are at increased risk for spontaneous hemorrhage, and they are also at high risk for excessive hemorrhage as a result of injury or surgery. The type of spontaneous bleeding that occurs with GT includes excessive gingival bleeding during tooth eruption, nose bleeds, and superficial skin bleeds. Young dogs less than 18 months of age are especially prone to excessive, spontaneous bleeding. The Great Pyrenees dog described in 1996 bled excessively during tooth eruption as a puppy and also had nose bleeds until the age of 23 months. She continued to have minor bruising and skin hemorrhages throughout her life. A major obstacle to identifying other dogs with GT was the necessity of performing highly specialized functional and biochemical diagnostic tests and also the necessity of patients being on the premises during these studies. Initially the disease could not be diagnosed without bringing the dog to the testing facility. In addition, carriers of the disease could not be readily identified by these methods. In early 1999, the canine gene that encodes for one of the proteins defective on the platelet surface in GT was sequenced and the molecular basis for the disease was determined.[2] By using DNA testing, affected and carrier animals can now be identified by simply submitting a blood sample through the mail. By using DNA testing, families of Great Pyrenees dogs carrying the mutation for GT have been identified in Illinois, Indiana, California, and Florida, and individual dogs have been identified in Oklahoma, Minnesota, Missouri, and Mississippi. Carrier detection is vital in controlling spread of inherited defects and DNA testing is the only reliable method of detecting these animals.

1. Boudreaux MK, Kvam K, Dillon AR, Bourne C, Scott M, Schwartz KA, Toivio-Kinnucan M. Type I Glanzmann's Thrombasthenia in a Great Pyrenees Dog. Veterinary Pathology 33:503-511, 1996.

2. Lipscomb DL, Bourne C, Boudreaux MK: Two genetic defects in alpha IIb are associated with Type I GT in a Great Pyrenees dog: a 14-base insertion in exon 13 and a splicing defect of intron 13. Veterinary Pathology 37:581-588, 2000.

Specimen requirements: At least 1ml EDTA whole blood (purple top tube). Do not cross contaminate samples during collection particularly if more than one dog is collected at the same time. Label all specimens clearly. Protect the tubes to prevent breakage during shipping. All methods of shipping are acceptable. **Blood samples do not require ice**.

Ship to: Hemostasis Laboratory, Peter W. Christopherson
166 Greene Hall
Auburn University, AL 36849-5519

Fee for testing: $130.00 (payment options listed below)

Invoice payments are due within 30 days from the invoice date and can be made securely online: https://www.aub.ie/payinvoice, by mailed check payable to: Pathobiology Diagnostic Services, or through wire transfer (email weldolm@auburn.edu for wire transfer instructions)

Questions regarding invoicing and/or payments: weldolm@auburn.edu

Hemostasis Laboratory
Department of Pathobiology
Dr. Peter W. Christopherson, DVM, PhD, DACVP
166 Greene Hall
Auburn University, AL 36849-5519
PH: 334-844-2797 / 334-844-2697, Fax: 334-844-2652
Email: chrispw@auburn.edu

OFFICE USE ONLY

ACCESSION _____

DATE _____

HEMOSTASIS LABORATORY

Glanzmann Thrombasthenia (GT) in Great Pyrenees

SAMPLE DATE: _____ AGE AT TIME OF SAMPLING OR DATE OF BIRTH: _____

ANIMAL NAME: _____ BREED: _____ SEX: ___ MALE ___ FEMALE

ANIMAL REGISTRATION NUMBER (if applicable): _____

NAME OF SIRE (if applicable): _____

REGISTRATION NUMBER OF SIRE (if applicable): _____

NAME OF DAM (if applicable): _____

REGISTRATION OF DAM (if applicable): _____

PERTINENT HISTORY:

OWNER INFORMATION	VETERINARIAN'S INFORMATION (BILLING INFORMATION)
NAME _____	REFERRING VETERINARIAN _____
ADDRESS _____	CLINIC _____
CITY/TOWN _____	ADDRESS _____
PROVINCE _____	CITY/TOWN _____
POSTAL CODE _____	PROVINCE _____
COUNTRY _____	POSTAL CODE _____ COUNTRY _____
PHONE _____	PHONE _____ FAX _____
	EMAIL _____
	FAX RESULTS ____ EMAIL RESULTS ____

RESULTS (if you would like the results sent to additional emails and/or faxes please list below)

EMAIL 1: _____ FAX 1: _____

EMAIL 2: _____ FAX 2: _____

SPECIMEN REQUIREMENTS: EDTA WHOLE BLOOD (1ML)

TURNAROUND TIME FOR RESULTS: TYPICALLY 8 TO 10 WORKING DAYS UPON ARRIVAL

HARD COPIES OF REPORTS AVAILABLE UPON REQUEST

SAVE AS A PDF

RESET FORM