LAD-III (LAD –I Variant) in German Shepherd Dogs

A combined leukocyte/platelet disorder has been identified in a German Shepherd Dog associated with a mutation in the gene encoding Kindlin-3. Kindlin-3 is a signal transduction protein vitally important for mediating integrin activation in platelets and leukocytes. Starting at 6 months of age, the affected dog had persistently increased white cell counts and persistent infections that involved the skin, feet and gingiva that were often accompanied by fever as well as abnormal bleeding. The affected dog was euthanized after developing profuse hemorrhage after a laceration on the lip at 6 years of age. A male sibling of the affected dog bled to death at 3 years of age.

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 (aggregate) and plug holes in damaged vessels until blood clotting and tissue repair can occur. The platelets in affected German Shepherd Dogs are unable to respond properly to any platelet activating agent because of a dysfunctional or missing Kindlin-3 protein. Kindlin-3 is necessary for transmitting signals to the platelet surface that allow the platelet to bind fibrinogen and aggregate. Kindlin-3 is also important in transmitting signals to the surface of leukocytes needed for them to leave the blood circulation and enter tissue for fighting infections. Therefore, these dogs are at increased risk for spontaneous hemorrhage and are at high risk for excessive hemorrhage as a result of injury or surgery. They are also at high risk for infections and have persistently increased white cell counts even when treated with antibiotics.

By using DNA testing, affected and carrier animals can be identified by submitting a blood sample through the mail. Carrier detection is vital in controlling spread of inherited defects and DNA testing is the only reliable method of detecting these animals.

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
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OFFICE USE ONLY

ACCESSION _____

DATE _____

HEMOSTASIS LABORATORY

LAD-III (LAD-I Variant) in German Shepherd Dogs

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