

# Bleeding Disorder? Trust..

# ACTube<sup>tm</sup> Vet

**For the Rapid Determination  
of Activated Clotting Time**

The ACT is a practical  
and inexpensive screening  
test for secondary  
hemostatic disorders.



**Complete ACT System**

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## **Modified Procedure for Determination of Activated Clotting Time (For Veterinary Use Only)**

**Materials:** 12 X 75 AcTube containing diatomaceous earth  
Syringe and needle  
Water Bath or Heat Block standardized to 37<sup>0</sup>C  
Thermometer  
Stopwatch

**Summary:** The Activated Clotting Time (ACT) can be run in the office to quickly evaluate secondary hemostasis. The ACT parallels the Activated Partial Thromboplastin Time (APTT) in that it tests for every clinically significant clotting factor except Factor VII. As a result, the ACT may be useful in the diagnosis and monitoring of rodenticide toxicosis, hepatopathy, and Hemophilia A and B. Unlike the APTT however, patients with severe thrombocytopenia may exhibit a slight to moderately prolonged ACT.

Special note: This procedure utilizes a non-vacuum tube as a replacement for the discontinued Becton Dickinson ACT Vacutainer. The use of this tube requires that samples be drawn with a syringe and transferred to the tube in contrast to the former method of direct draw. Although there is the possibility of clotting prior to dispensing the sample into the tube, those patients of greatest interest will be those with prolonged clotting times. As a result, the clinical usefulness of this modified test as a screening device should be minimally affected.

**Precautions:** Diatomaceous earth is a light powder that contains crystalline silica which can irritate eyes, throat, and nasal passages. Use care when opening tubes. Clean up spills with water to prevent aerosols.

- Procedure:**
1. Pre-incubate one empty AcTube at 37<sup>0</sup>C for 5-10 minutes.
  2. Perform a clean venipuncture preferably from the jugular vein with the syringe. Collect approximately 3 ml. of blood. Begin timing the test at this point.
  3. Remove the cap from the AcTube and quickly transfer 2 of the 3 ml of blood from the syringe into the tube. Recap the tube, gently invert 5 times, and place in the heat block or water bath. Continue timing.
  4. At 60 seconds and at each 5 second interval thereafter, withdraw the tube from the heat block and gently tilt it so that blood flows along its length while observing closely for any clots.
  5. The endpoint is the elapsed time to the nearest 5 seconds between sample draw and the occurrence of the first unmistakable thickening or clumping of blood.

**Normal Values:** Dogs < 120 seconds  
Cats < 100 seconds  
Cow < 145 seconds  
Horse < 40 seconds

\*The above values are taken from the literature and should only be used as a guideline. Good laboratory practice dictates that each clinic should establish its own reference values by running 5 to 10 known normal animals.

**Legal Notice:** ACTube® has not been validated in any controlled animal studies. Although side by side comparisons with the original Becton Dickinson ACT Vacutainer® have yielded comparable results, the manufacturer makes no claims of performance or suitability as a screening test for coagulopathy. The responsibility for achieving accurate and clinically useful results with ACTube® rests solely with the Veterinarian and/or individual performing the test. ACTube® has not been approved for use in human testing.

*An illustrated step by step tutorial is available at [www.vetlab.com/quickelearn.htm](http://www.vetlab.com/quickelearn.htm)*

- References:** Meyer, Coles and Rich: Evaluation of Hemostasis and Coagulation Disorders in Veterinary Laboratory Medicine. Philadelphia, W.B. Saunders, 1987, 43-49
- Tvedten, Harold: Hemostatic Abnormalities in Small Animal Clinical Diagnosis by Laboratory Methods edited by Willard, Tvedten, and Turnwald. Philadelphia, W.B. Saunders 1989, pp. 86-101
- Riley, J.H. and E. D. Lassen: Activated Coagulation Times of Normal Cows. Veterinary Clinical Pathology 1979; VIII, p. 31

### **Ordering Information:**

EQP-ACTSystem Includes heatblock, stopwatch, and 25 AcTubes.  
BLC-ACT-50 AcTube Pkg. 50  
BLC-ACT-100 AcTube Pkg. 100

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