National Veterinary Services Laboratories
Bovine Leukosis Virus Antibody
Proficiency Test Summary

1. Composition of proficiency test panel: The bovine leukosis (BL) virus antibody panel consists of twenty 0.6 ml samples of bovine serum. The panel contains negative, weak positive and strong positive samples, and includes blind duplicates. The samples are labeled with the test acronym and calendar year (e.g., BL 2007), a panel set number (e.g. Set 101), and a code number (codes 1 through 20). The codes are scrambled between sets.

2. Cost of proficiency test: $361.00 plus shipping ($10-US, $50 Canada, $150 other).

3. Storage conditions: Short term (up to 7 days) store at 4° ± 2° C. Long term (over 7 days) store at <-20° C in a non-frost free freezer.

4. Sample preparation/selection criteria: Samples with high, medium, and low concentrations of BL virus antibody are chosen for incorporation into the panel. Antibody levels arise from naturally acquired infections. Each panel member is tested at least three (3) times using licensed test kits by a minimum of two NVSL technicians.

5. Panel quality control: Samples are monitored for stability and reproducibility. Stability testing of the panel has determined that normal shipping and handling conditions do not change the end values of the components. Two panel sets of each lot of proficiency panels are used to confirm stability after final preparation.

6. Timing of the proficiency test distribution and data collection: The BL proficiency test is administered annually, customarily in the month of May.

7. Test method: Performance and interpretation of the BL proficiency should be conducted using licensed kit manufacturer's directions.

8. Submitting test results: Participating laboratories are required to have data submitted for scoring no more than four (4) weeks after panel distribution. Results are reported to the NVSL by fax or mail. One set of results is reported from each laboratory, along with test kit information.

9. Scoring of individual panel samples: The BL proficiency test is an annual test of laboratories approved to conduct official BL testing. Procedures for approved laboratories are described in VS Memorandum 555.8. Official BL tests are defined as those tests conducted for the purpose of certifying animals or products for international movement. One result for each sample is reported per laboratory. Sample results are reported as positive or negative.

10. Laboratory pass/fail criteria: The final score is based on the identification of positive and negative samples. An NVSL/CVB statistician is consulted to determine the appropriate pass/fail cutoff. Panels are scored when at least 80-85% of results have been returned. Proficiency scores tend to fall in a Poisson distribution. Laboratories are scored using the mean errors per laboratory as the standard. To pass the proficiency test, laboratories must fall in the area of the Poisson distribution curve in which it is estimated that 95% of their peers would lie.

11. Reporting laboratory test scores: Results for each laboratory are reported to the respective laboratory director and to the appropriate AVIC for the laboratory's location. Reports include individual laboratory results for each sample as well as summary results of participants in the proficiency test. Results are compiled and reported within 30-60 days of the receipt of participants' results.

12. Remedial actions required for failing laboratories: Laboratories that do not pass on the first attempt are given the option of obtaining a second panel for a retest. Laboratories that fail the proficiency test are encouraged to contact subject matter experts at NVSL for discussion of methods and resolution of potential areas of concern. If a failing laboratory declines to take, or does not pass, the retest the laboratory is recommended for removal from the list of approved laboratories for official BL testing. Laboratories that are removed from the approved list are advised that retraining at NVSL is needed for reconsideration of laboratory approval.

13. Special requirements: Licensed kits for diagnostic testing for BL antibody are commercially available to veterinary diagnostic laboratories. A list of laboratories approved for official (export) BL testing is maintained by APHIS/VS. Approximately 60 laboratories are approved for official BL serology testing. International requests for the BL proficiency panel are considered on a case-by-case basis and must follow applicable authorization and permit requirements.