E11-113 Bovine Albumin Technical Notice

The E11-113, Bovine Albumin ELISA kit contains highly sensitive and specific antibodies to bovine serum albumin. Poor duplicates and high background are very common technical issues encountered when running this assay. This notice contains information and tips to assist with execution and optimal performance of the product. Individual results are dependent on strictly following all procedures according to the protocol included with the kit.

1. Laboratory Environment:

    - Avoid performing the assay in laboratories where concentrated forms of bovine albumin (e.g., cell culture media or sera) have been utilized.
    - Wipe down all work surfaces and equipment thoroughly with a 70% ethanol solution or some other appropriate disinfectant before conducting the assay to reduce residual BSA, dust, and airborne particle contamination.

2. Personnel Practices:

    - Aerosols from a laboratory technician or plate washer can be sources of contamination in highly sensitive assays like the BSA ELISA. Therefore, it is essential to refrain from talking or breathing in such a way that could compromise the uncovered pre-coated microtiter plate.
    - Consider preparing reagents and performing the assay in a laminar flow barrier hood.
    - Wear gloves and any other appropriate PPE to help reduce the risk of contamination.

3. Pipetting Practices:

    - Avoid using pipettes that have been previously used to dispense concentrated forms of the analyte. When possible, use pipettes dedicated solely to performing the BSA ELISA only.
    - Use disposable pipette filter tips.
    - Consider plating all standards and samples in triplicate.
    - If assaying in triplicate is not feasible, samples must be assayed in duplicate and repeated if poor agreement between wells is observed.

4. Plate Washing:

    - Be cautious when using automated plate washers that have been exposed to concentrated solutions of the analyte. Many ELISA assays use wash buffers and diluents containing BSA or bovine serum. The residual BSA left behind on plate washer surfaces or in the washer is enough to contaminate the BSA assay. Even after thorough flushing, significant contamination will likely remain.
    - Hand washing with a multi-channel pipette is recommended. Carefully dump the contents of the plate with a quick wrist flip into a reservoir or sink being careful not to splash back into the wells. Do not tap excess moisture until the final wash is achieved. Overly aggressive blotting can lead to well variability.
    - For multi-channel pipetting, use sterile reservoirs labeled for use with proteins.
    - Change tips between each wash step, if possible.

5. Kit Component Handling:

    - Prepare buffers in sterile, unused containers. If high background is observed, discard all buffers, and start over with freshly made buffers.
    - Ensure the lyophilized standard is completely reconstituted and use it within 24 hours of preparation.
    - Do not contaminate the TMB Solution by exposing it to glass, foil, or metallic ions. If the solution is blue before use, DO NOT USE IT.
    - Carefully withdraw or pour only the required amount of substrate for each assay run. Do not return unused substrate back into its bottle.

6. Incubation Steps:

    - If using adhesive-backed plate sealing tape to cover the wells, extreme caution should be used to avoid well to well contamination which leads to variability.
    - Always tightly close all reagent bottles immediately after use to maintain their integrity and prevent contamination.