



Stability of Liquid Peroxidase Streptavidin

Purpose:

To evaluate the stability of liquid peroxidase streptavidin (HRPSA), a component of the Biotin Detection Kit (Cat. No. 54-30-00).

Assay Parameters:

Samples from two pilot lots (RM21 and RM22) of HRPSA were stored at 4°C, 37°C, and room temperature for 28 weeks (200 days). Reference samples were stored at -20°C and freshly thawed on the date of each assay. Sample performance was evaluated by ELISA at biweekly intervals.

Procedure:

Samples were evaluated by microwell ELISA test procedure as follows:

1. Dilute Rabbit IgG to 2 µg/ml in Coating Solution Concentrate (Prod. Code 50-84-01), Lot RA46, diluted 1:10 in reagent quality water. Add 100 µl diluted Rabbit IgG to all wells and incubate one hour at room temperature.
2. Block plate with 300 µl/well BSA Diluent/Blocking Solution Concentrate (Prod. Code 50-61-01), Lot QC02, diluted 1:10 in reagent quality water, 15 minutes at room temperature.
3. Dilute Biotin-labeled Goat anti-Rabbit IgG (Prod. Code 16-15-06), Lot RJ43-5, to 62.5 ng/ml, 31.25 ng/ml, 15.6 ng/ml, and 0 ng/ml in diluted BSA diluent. Add 100 µl to appropriate wells and incubate 30 minutes at room temperature.
4. Add 100 µl of each HRPSA sample, diluted to 0.1 µg/ml in diluted BSA diluent, to appropriate wells. Incubate 30 minutes at room temperature.
5. Wash plate 3 times for 3 minutes each with ELISA Wash Solution Concentrate (Prod. Code 50-63-02), Lot QJ45, diluted 1:20 in reagent quality water.
6. Add 100 µl/well of ABTS Peroxidase Substrate (Prod. Code 50-66-01), Lot QJ46, and incubate 10 minutes at room temperature.
7. Determine the O.D. for each well using a Biotek Ceres 900 ELISA reader with a 405 nm filter.

Results:

After 28 weeks storage, samples stored at 4°C retained at least 94% of their original activity, compared to the reference sample. Samples stored at room temperature retained at least 74% of original activity, and samples stored at 37°C were within at least 56% of original activity after 200 days of storage.

Conclusions:

KPL's liquid peroxidase streptavidin is extremely stable when stored as recommended at 4°C, with no significant loss of activity over a 28 week period. When stored at room temperature or 37°C, the product shows only a minimal decrease in activity. This product is expected to remain stable for at least one year after manufacture when stored at 4°C.