CALCULATE RESULTS

1. Semi-quantitative results can be derived by simple comparison of the sample absorbances to the absorbance of the calibrator wells. Samples containing less color than a calibrator will have a concentration of Streptomycin greater than the concentration of the calibrator. Samples containing more color than a calibrator well have a concentration less than the concentration of the calibrator.
2. Quantitative interpretation requires graphing the absorbances of the calibrators (Y axis) versus the log of the calibrator concentration (X axis) on semi-log graph paper. A straight line is drawn through the calibrator points and the sample absorbances are located on the line. The corresponding point on the X axis is the concentration of the sample. Samples with absorbances greater than the lowest calibrator or less than the highest calibrator must be reported as < 0.08 ppb or >3.0 ppb, respectively. Alternatively, Beacon can supply a spreadsheet template which can be used for data reduction. Please contact Beacon for further details.

SAMPLE CALCULATIONS

Well Contents	OD	Average OD ± SD*	%RSD	%Bo**	STX conc. (ppb)
Negative Control	2.417 2.445	2.417 ± 0.020	0.82	100	
0.08 ppb Calibrator	2.082 2.115	2.099 ± 0.024	1.13	86.8	0.08
0.6 ppb Calibrator	1.062 1.105	1.083 ± 0.030	2.81	44.8	0.60
3.0 ppb Calibrator	0.450 0.441	0.446 ± 0.006	1.38	18.4	3.00
Sample	1.084 1.085	1.085 ± 0.001	0.05	44.9	0.598

Actual values may vary; this data is for example purposes only.

* standard deviation

** %Bo equals average sample absorbance divided by average negative control absorbance times 100%.

TECHNICAL ASSISTANCE

For questions regarding this kit or for additional information about Beacon products, call (207) 571-4302.

SAFETY

To receive complete safety information on this product, contact Beacon Analytical Systems, Inc. and request Material Safety Data Sheets. Stop Solution is 1N hydrochloric acid. Handle with care.

General Limited Warranty

Beacon Analytical Systems, Inc. ("Beacon") warrants the products manufactured by it against defects in materials and workmanship when used in accordance with the applicable instructions for a period not to extend beyond a product's printed expiration date. BEACON MAKES NO OTHER WARRANTY, EXPRESSED OR IMPLIED. THERE IS NO WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. The warranty provided herein and the data, specifications and descriptions of Beacon products appearing in published catalogues and product literature may not be altered except by express written agreement signed by an officer of Beacon. Representations, oral or written, which are inconsistent with this warranty or such publications are not authorized and, if given, should not be relied upon.

In the event of a breach of the foregoing warranty, Beacon's sole obligation shall be to repair or replace, at its option, any product or part thereof that proves defective in materials or workmanship within the warranty period, provided the customer notifies Beacon promptly of any such defect. The exclusive remedy provided herein shall not be deemed to have failed of its essential purpose so long as Beacon is willing and able to repair or replace any nonconforming Beacon product or part. Beacon shall not be liable for consequential, incidental, special or any other indirect damages resulting from economic loss or property damage sustained by a customer from the use of its products. However, in some states the purchaser may have rights under state law in addition to those provided by this warranty.

BEACON ANALYTICAL SYSTEMS, INC.
82 Industrial Park Road
Saco, ME 04072
Tel. (207) 571-4302
Fax (207) 602-6502
www.beaconkits.com

Beacon Analytical Systems Inc.

Streptomycin Plate Kit

Cat.# 20-0141

Instructional Booklet

READ COMPLETELY BEFORE USE.

INTENDED USE

The Beacon Streptomycin Plate Kit is a competitive ELISA for the quantitative analysis of Streptomycin in honey products.

USE PRINCIPLES

The Beacon Streptomycin plate kit is a competitive enzyme-labeled immunoassay. Streptomycin is extracted from a sample by blending or shaking with extraction solution. The Streptomycin sample extract and calibrators are pipetted into the test wells followed by Streptomycin antibody into the test wells to initiate the reaction. During the 60 minute incubation period, Streptomycin from the sample and Streptomycin HRP conjugate compete for binding to Streptomycin antibody. Following this 60 minute incubation, the contents of the well are removed and the wells are washed to remove any unbound Streptomycin, Streptomycin HRP conjugate and free Streptomycin antibody. After wash with wash solution, a clear substrate is then added to the wells and any bound enzyme conjugate causes the conversion to a blue color. Following a 30 minute incubation, the reaction is stopped and the amount of color in each well is read. The color of the unknown samples is compared to the color of the calibrators and the Streptomycin concentration of the samples is derived

MATERIALS PROVIDED

The kit in its original packaging can be used until the end of the month indicated on the box label when stored at 2 – 8ºC.

1 plate containing 12 test strips of 8 wells each vacuum-packed in aluminized pouch with indicating desiccant.

1 vial of Negative control (0.0 ppb Streptomycin)

3 vials each containing 2 mL of Streptomycin calibrators corresponding to 0.08, 0.6 and 3 µg/L (ppb) of Streptomycin.

1 vial containing 8 mL Streptomycin HRP Enzyme Conjugate.

1 vial containing 8 mL of monoclonal anti-Streptomycin antibody.

1 vial containing 14 mL of Substrate.

1 vial containing 14 mL of Stop Solution. (Caution! 1N HCl. Handle with care.)

1 Instructional Booklet

MATERIALS REQUIRED BUT NOT PROVIDED

- Laboratory quality distilled or deionized water.
- Pipet with disposable tips capable of dispensing 50 µL.
- Multi-channel pipet; 8-channel capable of dispensing 50 and 100 µL.
- Paper towels or equivalent absorbent material.
- Microwell plate or strip reader with 450nm filter.
- Timer
- Wash bottle

PERFORMANCE CHARACTERISTICS

SPECIFICITY

The following table shows the % cross reactivity of Dihydrostreptomycin vs. Streptomycin.

Compound	% CR
Streptomycin	100 %
Dihydrostreptomycin	86%

PRECAUTIONS

- Store all kit components at 4°C to 8°C (39°F to 46°F) when not in use.
- Each reagent is optimized for use in the Beacon Streptomycin Plate Kit. Do not substitute reagents from any other manufacturer into the test kit. Do not combine reagents from other Beacon Streptomycin Plate Kits with different Lot numbers.
- Dilution or adulteration of reagents or samples not called for in the procedure may result in inaccurate results.
- Do not use reagents after expiration date.
- Reagents should be brought to room temperature, 20 – 28ºC (62 – 82ºF) prior to use. Avoid prolonged (> 24 hours) storage at room temperature.
- Streptomycin is an antibiotic and should be treated with care.
- The Stop Solution is 1N hydrochloric acid. Avoid contact with skin and mucous membranes. Immediately clean up any spills and wash area with copious amounts of water. If contact should occur, immediately flush with copious amounts of water.
- Transfer of samples and reagents by pipette requires constant monitoring of technique. Pipetting errors are the major source of error in immunoassay methodology.

ASSAY PROCEDURE

(Note: Running calibrators and samples in duplicate will improve assay precision and accuracy.)

1. Allow reagents and sample extracts to reach room temperature prior to running the test.
2. Place the appropriate number of test wells into a micro well holder. Be sure to re-seal unused wells in the zip-lock bag with desiccant.
3. Using a pipet with disposable tips, add **50 µL enzyme conjugate** to the appropriate test wells. Be sure to use a clean pipet tip for each. Add **50 µL of Calibrators or Sample** extract to each well.
4. Dispense 50 µL of Antibody Solution into each test well.
5. Shake the plate gently for 30 seconds and incubate the test wells for **60 minutes**.
6. Decant the contents of the wells into an appropriate waste container. Fill the wells to overflowing with tap water and dump. Repeat 3X for a total of four washes.
7. Following the last wash tap the inverted wells onto absorbent paper to remove the last of the wash solution.
8. Dispense **100 µL of Substrate** into each well.
9. Incubate the wells for **30 minutes**.
10. Dispense **100 µL of Stop Solution** into each test well.
11. Read and record the absorbance of the wells at 450nm using a strip or plate reader.