Streptomycin Residue Rapid Test Strip (Honey)

Prod. No.: DTS018
Pkg.Size: 40T

INTENDED USE

The Streptomycin Residue Rapid Test Device is used to qualitative detection of Streptomycin in aquatic samples at the sensitivity of 5 μg/kg(5 ppb). It only takes approx.30-40 min.

GENERAL DESCRIPTION

Streptomycin (STR) is a broad spectrum antibiotic which is widely used as bacteriostatic agents in animal husbandry and veterinary practice. However, Streptomycin is prohibited in most countries as its residue may cause serious side effects. It may affect kidney and ear. However, man would suffer from Aplastic Anemia or agranulocytopenia if the hematopoiesis function of marrow is inhibitted. What is worse, it may cause allergic shock. Therefore, it is possible that Streptomycin residues, after use in illegal practice, may lead to a risk for consumers.

PRINCIPLE OF THE TEST

The test utilizes monoclonal gold conjugated antibody as a signal reagent and a Streptomycin protein conjugate as a solid phase capture reagent. As the sample flows through the absorbent sample pad, the liquid reconstitutes the dried monoclonal gold conjugate. The Streptomycin in the sample will bind to this conjugate antibody and migrate further up the membrane to the test line. If there is no Streptomycin in the sample, the antibody conjugate will bind to the test line giving a negative result, while in the opposite, the antibody conjugate will not bind to the test line giving a positive result.

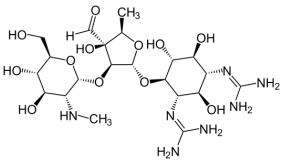
MATERIALS PROVIDED

Streptomycin Residue Rapid Test Device: 40 devices
PBST Buffer: 1 vial
Plastic Dropper: 40 per kit
15ml Tube: 40/kit
5ml Tube: 40/kit
Extraction: 4/kit

ADDITIONAL MATERIAL

1. C18 pillar
2. 15 ml centrifuge tube
3. N-hexane
4. Methanol

Agitator, balance, centrifuge, micropipettor, any blower, such as a hair drier, a mild stream of nitrogen or atmosphere



Streptomycin

STORAGE

Store at 4-30℃, DO NOT FREEZE or use beyond the expiration date .The shelf life is 12 months.

PRECAUTIONS

1. Do not use after the expiration date.
2. The test device should remain in the sealed pouch until use.
3. Use device as soon as possible but within 1 hour after removal from the pouch specially.
4. Do not touch the white membrane in the mid of the test device.
5. Use the plastic dropper for one time in case cross reaction happens.
6. It may lead into wrong result if there is bleach, oxydant, or fusty serum.
7. Do the test at room temperature. It takes longer time at high temperature, and shorter time at low temperature.
8. Different samples will influence the result on NC thecal. Read the result according to color differences of the color bar.
9. Be careful if you are allergic to antibiotics.

SPECIMEN TREATMENT

If the honey is not crystallized, agitate it. Heat the sample in 60℃~80℃ water, then homogenize it when the sample is totally thawed.
—Weigh 2g honey into 15ml tube.
---Add 4ml extraction, and shake it intensively.
---Centrifuge for 10min at room temperature 4000 r/min.
Let the supernatant flow through C18 solid phase extraction:
(1) Wash the C18 pillar with methanol (10 drops/min), waste the liquor.
(2) Wash the C18 pillar with 4 ml distilled water(1drop/second), waste the liquor.
(3) Suck 5 ml supernatant into the C18 pillar (15 drop/min), waste the liquor.
(4) Wash the C18 pillar with 3 ml distilled water (15drops/min), waste the liquor.

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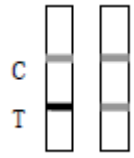
(5) Press out the liquor carefully.
(6) Wash with 2 ml methanol(10 drops/min).
(7) Collect the eluant with a 5 ml tube.
(8) Dry with a mild stream of nitrogen or atmosphere at 65℃
(9) Dissolve the residue around the inner tube with 300 µl PBST buffer, and keep still for 2 min.
(10) Suck the under layer solution for test.
Note: If test the quality of the device with standard sample, please use the packed PBST buffer.

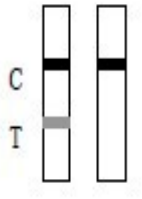
TEST PROCEDURE

1. Prepare samples according to ***SPECIMEN TREATMENT***.
2. Remove the Residue Rapid Test Devices from sealed pouch.
3. Hold the dropper vertically and transfer 3 full drops of solution obtained from specimen treatment to the specimen well (S) of the test device, and then start the timer. Avoid trapping air bubbles in the specimen well (S).
4. Wait for purplish red bands to appear. The result should be read in approximately 3~5 minutes. It is significant that the background is clear before reading the test. Do not interpret results after 5 minutes.

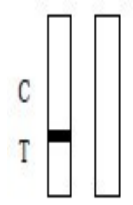
INTERPRETATION OF RESULTS



NEGATIVE:
Two lines are visible and the Test Line (T) is the same as or darker than the Control Line (C), which also is the Reference Line (R). This indicates that the Streptomycin concentration in sample is below 5 µg/kg.



POSITIVE:
Two lines are visible, but the Test Line (T) is lighter than the Control Line (C), or there is no Test Line. This indicates that the Streptomycin concentration in sample is above 5 µg/kg.



INVALID:
Insufficient specimen volume or incorrect procedural techniques are the most likely reasons for an invalid result. Review the procedure and repeat the test with a new test device. Stop using the test kit immediately if the problem is not solved and contact your local distributor.

SENSITIVITY

To acquire the exact sensitivity, reduplicative experiment has been done on the sample containing 5 µg/kg Streptomycin.

SPECIFICITY

No cross-reaction with standard Neomycin(100 ng/mL), or Gentamicin(3000 ng/mL).
No cross-reaction with Chloramphenicol, Tetracycline, or Sulfamethazine.

QUALITY CONTROL

Procedural control is applied. Apurplish red band appears in the control region (C), which is also the reference region (R) that is for internal procedure control. It ensures efficiency and correct procedure technique.

Control standard is not supplied in this device. Proper laboratory practice is the confirmation of the test procedure and test performance.

LIMITATION OF THE PROCEDURE

1. The Streptomycin Residue Rapid Test Device is only a preliminary analytical result. A secondary analytical method must be taken for confirmation. Gas or liquid chromatography and mass spectrometry method (GC/LC/MS) is preferred.
2. The Streptomycin Residue Rapid Test Device is a qualitative screening assay and cannot test the Streptomycin concentration in the specimen.
3. Technical or procedural errors, as well as other interfering substance in the specimen may cause falseness.

PRECISION

A multi-center test evaluation comparison is conducted between our Streptomycin Residue Rapid Test Device to other ELISA Streptomycin test. 150 specimens are tested, including 60 negative and 90 positive. 98% of our Streptomycin Residue Rapid Test Device is effective when comparing to other ELISA test.

REFERENCE

1. Jan-Thorsten Schantz; Kee-Woei Ng (2004). A manual for primary human cell culture. World Scientific. p. 89.
2. Metcalfe NH, Sir Geoffrey Marshall (1887-1982), Journal of Medical Biography 2011; 19: 10-14.

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