

Sulfamethoxazol Residue Rapid Test Strip (Tissue)

Prod. No.: DTS016
Pkg.Size: 40T

INTENDED USE

The Sulfamethoxazol Residue Rapid Test Device is used to qualitative detection of Sulfamethoxazol in aquatic samples at the sensitivity of 20 µg/kg (20 ppb). It only takes approx. 20-30 min.

GENERAL DESCRIPTION

Sulfamethoxazol (SMZ) is a broad spectrum antibiotic which is widely used as bacteriostatic agents in animal husbandry and veterinary practice. Combined with inhibitors of dihydrofolate reductase such as trimethoprim, tetroxoprim, or pyrimethamine Sulfamethoxazol are also used in veterinary medicine for the treatment of intestinal infections, mastitis, pulmonitis and other (systemic) diseases. However, it leads side effects of hematoxic, agranulocytosis, hypersensitiveness. It will affect urinary system and cranial nerves system. Therefore, it is possible that Sulfadiazine residues, after use in illegal practice, may lead to a risk for consumers.

PRINCIPLE OF THE TEST

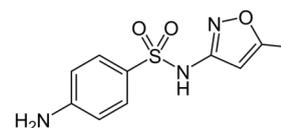
The test utilizes monoclonal gold conjugated antibody as a signal reagent and a Sulfamethoxazol protein conjugate as a solid phase capture reagent. As the sample flows through the absorbent sample pad, the liquid reconstitutes the dried monoclonal gold conjugate. The Sulfamethoxazol in the sample will bind to this conjugate antibody and migrate further up the membrane to the test line. If there is no Sulfamethoxazol 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

Sulfamethoxazol Residue Rapid Test Device: 40 devices
PBST buffer only for SMZ
Desiccant: 1 piece per sealed pouch

ADDITIONAL MATERIAL

1. Ethyl acetate
2. N-hexane
3. 50 ml graduated vial
Balance, centrifuge, a mild stream of nitrogen or atmosphere, transperettor and so on.



Sulfamethoxazol

STORAGE

Store at 4-30°C, 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

The samples should be stored in a cool place, and protected against light.

1. Homogenize a reasonable amount of sample (e.g. 50g) with a suitable equipment (e.g. ultra turrax or mixer).
2. Weigh 5 g of homogenized sample into a 50 ml centrifuge tube.
3. Add 8 ml ethyl acetate and blend for approx. 10min.
4. Centrifuge for separation: 5 min / 4000 rpm / at room temperature.
5. Transfer 7ml supernatant into a rotary flask and dry it at 65°C with a mild stream of nitrogen or atmosphere.
6. Add 0.5 ml N-hexane and 0.3 ml PBST only for SMZ orderly, dissolve the dried residue around the inner-tube, and keep still for 2 min.
7. Suck 100 µl of under layer liquid for test.

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TEST PROCEDURE

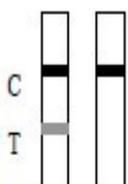
1. Prepare samples according to **SPECIMEN TREATMENT**.
2. Remove the Residue Rapid Test Devices from sealed pouch.
3. Hold the dropper vertically and transfer 3 full drops of solution obtained from specimen treatment to the specimen well (S) of the test device, and then start the timer. Avoid trapping air bubbles in the specimen well (S).
4. Wait for purplish red bands to appear. The result should be read in approximately 5~10 minutes. It is significant that the background is clear before reading the test. Do not interpret results after 10 minutes.

INTERPRETATION OF RESULTS



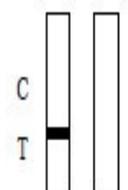
NEGATIVE:

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 Sulfamethoxazol concentration in sample is below 20 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 Sulfamethoxazol concentration in sample is above 20 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 20 µg/kg Sulfamethoxazol.

QUALITY CONTROL

Procedural control is applied. A purplish 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 Sulfamethoxazol 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 Sulfamethoxazol Residue Rapid Test Device is a qualitative screening assay and cannot test the Sulfamethoxazol concentration in the specimen.
3. Technical or procedural errors, as well as other interfering substance in the specimen may cause falseness.

SPECIFICITY

No cross-reaction with Sulfamethazine(100µg/kg), Sulfapyridine (100µg/ml) Sulfaguanidine(100µg/ml) or Sulfadimethoxine (100µg/ml).

No cross-reaction with Chloramphenicol, Tetracyclines, or Streptomycin.

PRECISION

A multi-center test evaluation is conducted comparing with the results obtained from our Sulfamethoxazol Residue Rapid Test Device to other commercially available ELISA Sulfamethoxazol test. 164 specimens are studied, including 85 negative and 79 positive. 98.6% of our Sulfamethoxazol Residue Rapid Test Device is effective when comparing with other ELISA Sulfamethoxazol test.

REFERENCE

1. Ma, M.; Cheng, Y.; Xu, Z.; Xu, P.; Qu, H.; Fang, Y.; Xu, T.; Wen, L. (2007). "Evaluation of polyamidoamine (PAMAM) dendrimers as drug carriers of anti-bacterial drugs using sulfamethoxazole (SMZ) as a model drug". *European journal of medicinal chemistry* 42 (1): 93–8.
2. Garg, S.K.; Ghosh, S.S.; Mathur, V.S. (1986). "Comparative pharmacokinetic study of four different sulfonamides in combination with trimethoprim in human volunteers". *International journal of clinical pharmacology, therapy, and toxicology* 24 (1): 23–5.