# Sulfamethoxazol Residue Rapid Test Strip (Honey)

Prod. No.: DTS017
Pkg.Size: 40T

### *INTENDED USE*

The Sulfamethoxazol Residue Rapid Test Device is used to qualitative detection of Sulfamethoxazol in honey samples at the sensitivity of 10 μg/kg(10 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 hemato-toxic, 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*

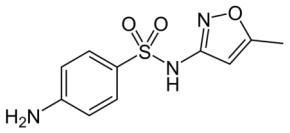
The test utilizes monoclonal gold conjugated antibody as a signal reagent and a Sulfamethoxazol protein conjugate as a solid phase capture reagent. As the sample flows through the absor-bent sample pad, the liquid reconstitutes the dried monoclonal gold conjugate. The Sulfamethoxazol in the sample will 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: 1 vial***
***Buffer A:*** 1 vial
***Buffer B:*** 1 vial
***Throwaway plastic dropper:*** 160 pieces per kit
***15ml graduated vial:*** 40 pieces per kit
***5ml graduated vial:*** 40 pieces per kit

### *ADDITIONAL MATERIAL*

1. Ethyl acetate
2. Any blower, such as hair drier
3. Test tube clip



**Sulfamethoxazol**

### *STORAGE*

Store at 4-30℃, DO NOT FREEZE or use beyond the expira-tion 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 there is some concretion in honey samples, heat the sam-ple in 60-80℃ water, and then mix the sample.

**1. Method with simple tools**

1.1 Add honey to “3ml” mark line of a 15ml centrifugal vial, no more than 4ml.
1.2 Add 1ml of Buffer A (based the mark lines), and then add 1ml of Buffer B (based the mark lines), shake to dissolve the honey sample. (Note: If it is difficult to dissolve the honey, heat the sample in 60-80℃water for a few minutes, and then shake to dissolve.)
1.3 Add 8ml of ethyl acetate (based the mark lines) into the 15ml centrifugal vial, and shake for approx. 8 min up side down.
1.4 After phase separation, transfer 5ml of ethyl acetate (based the mark lines) supernatant into a 5ml graduated vial by plastic dropper.
1.5 Evaporate the ethyl acetate by any drier.



45-16 Ramsey Road Shirley, NY 11967, USA
Tel: 631-624-4882 ·Fax:631-614-7828
E-mail: info@creative-diagnostics.com
www.creative-diagnostics.com

1.6 Transfer 5 full drops of PBST vertically into the 5ml vial, blend to dissolve the residue, and then use the solution for the test.

**2. Method with exact tools**

2.1 Weigh 4g of honey and transfer into a 15ml centrifugal vial.

2.2 Add 1ml of Buffer A, and then add 1ml of Buffer B, shake to dissolve the honey sample. (Note: If it is difficult to dissolve the honey, please heat the sample in 60-80℃water for a few minutes, and then shake to dissolve.)

2.3 Add 8ml ethyl acetate by a graduated pipette, and shake for approx. 8 min up side down.

2.4 After approx. 1 min (for phase separation), transfer 5 ml of ethyl acetate (based the mark lines) supernatant into a 5 ml graduated vial by plastic dropper.

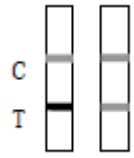
2.5 Evaporate the ethyl acetate by any drier, or evaporate the ethyl acetate at 65°C under a mild stream of nitrogen.

2.6 Transfer 160 µl of PBST into the 5ml graduated vial, dissolve the commixture around the tube, and then use the solution for the test.

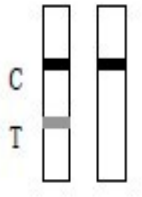
## *TEST PROCEDURE*

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.

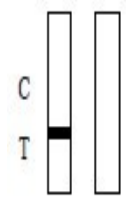
## *INTERPRETATION OF RESULTS*




**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 10 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 10 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 10 µg/kg Sulfamethoxazol.

## *SPECIFICITY*

No cross-reaction with Sulfapyrimidine(100µg/kg), Sulfapyridine (100µg/kg), Madribon(100µg/kg), or Sulfanilamide-glyoxalin (100µg/kg).
No cross-reaction with Chloramphenicol, tetracyclines, or streptomycin.

## *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 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.

## *PRECISION*

A multi-center test evaluation comparison is conducted between our Sulfamethoxazol Residue Rapid Test Device to other ELISA Sulfamethoxazol test. 243 specimens are tested, including 145 negative and 98 positive. 98.1% of our Sulfamethoxazol Residue Rapid Test Device is effective when comparing to other ELISA 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.



45-16 Ramsey Road Shirley, NY 11967, USA
Tel: 631-624-4882·Fax:631-614-7828
E-mail: info@creative-diagnostics.com
www.creative-diagnostics.com