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AccuDip™ Salbutamol Rapid Test Strip User Guide

(Product No. AAF-11141)

General Description

Salbutamol (albuterol) is a β_2-adrenergic receptor agonist, and has been marketed to treat bronchospasm caused by asthma or exercise, and chronic obstructive pulmonary disease. When added to animal feed, it can increase body muscle percentage, slow down fat deposition and promote animal growth. However, when residual salbutamol in food enters human body, it can pose immediate health risks, leading to dizziness, palpitation, anxiety, tremor, headache, vomiting, and muscle cramps. Therefore, it has been strictly prohibited to be used on farmed animals.

The *AccuDip*™ salbutamol rapid test strip provides a rapid and convenient test for salbutamol with a colloidal gold immunochromatographic design. It can detect salbutamol in urine, blood serum, and animal feed of livestock and poultry either on site or in the lab, providing a **fast** (results shown in **10 minutes**), **simple**, **sensitive** and **reliable** detection approach for the presence of salbutamol. The lower limit of detection (LOD) of salbutamol in the sample is **3 ng/ml (3 ppb)**.

Intended Use

The *AccuDip*™ salbutamol test strip is a lateral flow strip test for rapid on-site or in-lab detection of residual salbutamol in urine, blood serum, and animal feed of livestock and poultry.
Assay sensitivity: 3 ng/ml (3 ppb)

Safety Instructions

To receive complete safety information on this product, contact AccuAffinity, Inc. and request Material Safety Data Sheet.

Assay Principles

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AccuDip™ salbutamol test strip is based on the principle of colloidal gold immunochromatography. An anti-salbutamol antibody is conjugated to colloidal gold and placed on conjugate pad. Colloidal gold provides red color to visualize antibody-antigen binding. Salbutamol antigen is immobilized on nitrocellulose membrane. After test sample is loaded onto sample pad, it mixes with gold-antibody conjugate and migrates along the membrane. If the sample contains no salbutamol or amount of salbutamol lower than detection limit, antibody conjugated to colloidal gold will bind the antigen immobilized on membrane, leading to clear red color presented on membrane detection line where the test antigen is immobilized (as negative result). If salbutamol concentration is higher than detection limit in the test sample, it will bind gold-antibody conjugate and prevent its binding onto the antigen line on membrane. As a result, no color will be visible on detection line on membrane (indicating positive result).

Reagents and Materials in each pack

a) 1 salbutamol test strip
b) 1 disposable dropper
c) 1 pack of desiccant

Sample Collection and Test Procedure

- Equilibrate test strip to room temperature (20-25^{o}C)
- Equilibrate test sample to room temperature (20-25^{o}C)

a) For urine samples:
   Collect approx. 20 ml of urine sample using a clean centrifuge tube or other suitable container. Sample needs to be frozen if immediate testing is not possible. Refrigeration is recommended for short-term storage, and care must be taken to avoid microbial growth or contamination. Centrifuge sample when precipitation or turbidity is visible, and supernatant is used as test solution.

b) For blood serum samples:
   Draw blood from animal to be tested, and centrifuge or keep still to collect transparent upper layer (blood serum) as test solution. If excessive hemolysis is observed, dilute serum 2-fold with distilled water before testing.

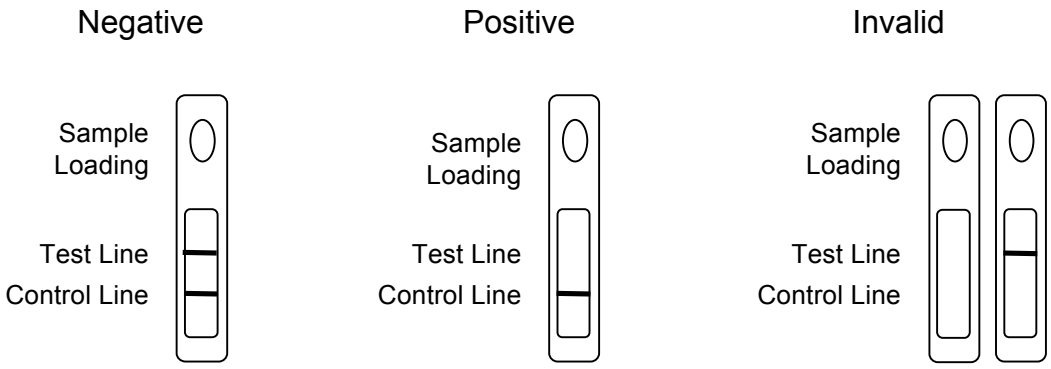
c) Animal feed samples:
   Pulverize animal feed sample, and pass through a sieve with mesh size 20. Place 2 grams of this pulverized sample in a 50 ml centrifuge tube, and add 10 ml distilled

water and mix well, followed by ultrasound treatment in 37°C ultrasonic water bath for 30 minutes (with mixing every 10 minutes). Equilibrate contents of the tube to room temperature, centrifuge at 4000 rpm for 5 minutes and collect supernatant as test solution.

Add 2 drops of test solution from a), b) or c) described above into sample loading well with a disposable dropper, and observe result in 8 to 15 minutes.

Result Interpretation

Test result is interpreted by observing test line and control line shown in result window.
Negative (-): both test and control lines are present, and test line is equal to or darker than control line. This indicates salbutamol concentration in sample is lower than 3 ng/ml;
Positive (+): control line is present, and test line is either absent or lighter than control line. This result indicates salbutamol concentration is higher than 3 ng/ml in sample;
Invalid test: no control line is present. Please repeat the test using a new test strip following instructions on this user guide.



Precautions

1. Test strip is for one-time use only. Please use the test strip on the same day the package is opened.
2. Do not use tap water, purified water, or distilled water as negative control.
3. Test should be performed at room temperature, and test strip and sample both need to be equilibrated to room temperature before the test.
4. If no liquid movement is observed in the test window 30 seconds after test solution is added to sample loading well, add one more drop of test solution.
5. Positive samples identified by test strip are recommended to be verified with other approaches (such as HPLC or GC-MS).

Storage and Expiration Date

Storage: Room Temperature
Expiration Date: 12 months after manufacturing date.

Technical Assistance

For ordering or technical assistance regarding this product, or for additional information about AccuAffinity products, please email support@accuaffinity.com or call (408) 368-1364.

General Limited Warranty

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