



## *AccuDip*<sup>TM</sup> Zearalenone Rapid Test Strip User Guide

(Product No. AAF-11171)

### General Description

Zearalenone (also known as ZEA, RAL and F-2 mycotoxin), is a potent estrogenic compound produced by some *Fusarium* species. It is commonly found in grains such as maize, barley, oats, wheat, rice, and sorghum, and therefore can be found in bread as well. Its strong estrogenic effect can lead to significant increase of estrogen level in poultry and livestock, and its impact on reproductive system of pregnant animal and human could lead to abortion, fetal death or malformed fetus. In addition, eating food prepared with zearalenone contaminated flour can also lead to toxicity to central nervous system, with symptoms of nausea, feeling cold, headache, depression, or ataxia.

*AccuDip*<sup>TM</sup> zearalenone rapid test strip provides a rapid and convenient test for zearalenone with a colloidal gold immunochromatographic design. It provides a **fast** (results shown in **10 minutes**), **simple** (no instrument is required, and results can be observed visually), **sensitive** and **reliable** detection approach for the presence of zearalenone in grains and grain products. The lower limit of detection (LOD) of zearalenone in the sample is **200 ng/ml (200 ppb)**.

### Intended Use

The *AccuDip*<sup>TM</sup> zearalenone test strip is a lateral flow strip test for rapid detection of zearalenone in grain and grain.

Assay sensitivity: 200 ng/ml (200 ppb)

### Safety Instructions

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



## Assay Principles

*AccuDip*<sup>TM</sup> zearalenone test strip is based on the principle of colloidal gold immunochromatography. An anti-zearalenone antibody is conjugated to colloidal gold and placed on conjugate pad. Colloidal gold provides red color to visualize antibody-antigen binding. Zearalenone antigen is immobilized on nitrocellulose membrane. After test sample is loaded onto sample pad, it mixes with gold-antibody conjugate and migrates together along the membrane. If sample contains no zearalenone, 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 (indicating a negative result). If zearalenone is present 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 a positive result).

## Reagents and Materials in each pack

- a) 1 zearalenone test strip
- b) 1 disposable dropper
- c) 1 pack of desiccant
- d) 1 bottle of sample diluent

## Sample Collection and Test Procedure

- Equilibrate test strip to room temperature (20-25°C)
  - Equilibrate test sample to room temperature (20-25°C)
- a) Pulverize over 5 g of representative grain or grain product sample, and pass through a sieve with mesh size of 20. Place 2 grams of this pulverized sample into a 50 ml centrifuge tube.
  - b) Add 8 ml ethyl acetate (EtAc) into this centrifuge tube and close lid tightly. Shake violently (or vortex) for 5 minutes and let stand afterwards. If less than 3 ml supernatant is present after sedimentation, centrifuge at 4,000 rpm for 1 minute.
  - c) Transfer 3 ml supernatant into a clean glass beaker, blow air over surface until solvent evaporates completely. Re-dissolve residue in 200 µl sample diluent (included with the test strip) by shaking and mixing thoroughly. Take 100 µl of this re-dissolved solution and add another 100 µl sample diluent to obtain test solution.
  - d) Add 2 drops of test solution described above into sample loading well with a disposable dropper.
  - e) Observe result in 5-10 minutes.



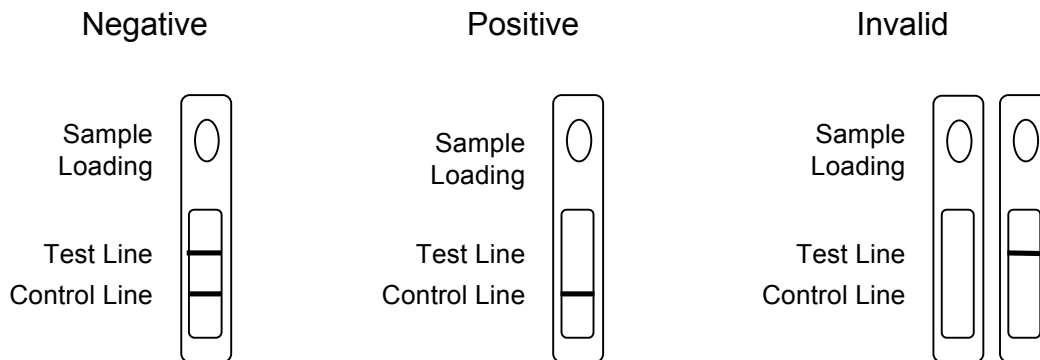
## Result Interpretation

Test result is interpreted by observing test line and control line shown in result window.

Negative (-): both test and control lines are present, indicating zearalenone concentration in sample is lower than 200 ng/ml;

Positive (+): control line is present, and test line is absent. This result indicates zearalenone concentration is higher than 200 ng/ml in the 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 detection methods (such as HPLC or GC-MS).

## Storage and Expiration Date

Storage: Keep at room temperature in a cool and dry place in intact original packaging.



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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](mailto:support@accuaffinity.com) or call (408) 368-1364.

### **General Limited Warranty**

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