

DON Rapid Test Kit for Cereals and Feed

Order Code: YRF1011-2

Introduction

This rapid test is used for detection of Deoxynivalenol in cereals, feed and grain by-products based on the colloidal gold immunochromatography technology. The whole process includes two parts: sample preparation, and detection. It takes about 7-10mins for sample preparation and 6mins for detection for one test.

Application

Applicable for the rapid test of Deoxynivalenol in feed, cereals and grain by-products like wheat, corn, bran, wheat middling, flour, DDGS.

Performance Information

Specificity: No cross reaction with 50mg/kg Aflatoxin B1, Zearalenone, Ochratoxin, Fumonisin, Melamine, Olaquinox etc.

Sensitivity: limits of detection($\mu\text{g}/\text{kg}$ -ppb)

Residue Name	LOD 1	LOD 2	LOD 3	LOD 4
Deoxynivalenol	400-500	800-1000	1500-2000	2500-3000

Storage and Shelf Life

Storage: Store at 2-30°C. Do not freeze. Keep away from direct sunlight, moisture and heat.
Shelf Life: 12 months.

Test Kit Components (48tests/kit)

- 6 test tubes, each containing 8 red reagent microwells and 8 dipsticks.
- 6 bottles of DON Diluent.
- 1 plate holder.
- 1 instruction manual.

Materials Required but not provided

- Distilled water or deionized water.
- 50% Ethanol (Mix 100% Ethanol with same volume of water, recommending to prepare before use. If it was prepared in advance, make sure the container is well-sealed to prevent volatilization).
- Pipettes (20-200 μL , 1000-5000 μL), pipette tips, scale, timer, centrifuge, centrifuge tube(2mL, 50mL), vortex(optional).

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- Positive and negative controls(optional).
- Incubator (optional), Reader(optional).

Sample Preparation

- Weigh $5\pm 0.2\text{g}$ homogeneous milled sample and put into 50mL centrifuge tube.
- Add 6 times volume of 50% Ethanol, which is 30mL, vortex for 2-3mins at 3000rpm(*It is recommended to vortex 5mins at 3000rpm if the sample is bran, wheat middings and other strong water absorption materials; If vortex is not available, users may shake the tube vigorously up and down for 2-3mins*).
- Put the solution standing for 3-7mins or centrifuge 1min at 4000rpm(*It is recommended to centrifuge 5mins at 4000rpm if the sample is bran, wheat middings and other strong water absorption materials*).
- Take 200 μL supernatant into 2mL centrifuge tube, input 1000 μL DON Diluent and mix well, this is the **Detection Solution 1**.
- Take 150 μL Detection Solution 1 into 2mL centrifuge tube, input 1000 μL DON Diluent and mix well, this is the **Detection Solution 2**.

Test Procedure

- Pipette Detection Solution and distilled water in the volume according to below chart into the red reagent microwells to achieve different limits of detection, mix well by pipetting up and down for 5-10 times.

Limit of Detection	Solution Volume
LOD 1 (400-500 $\mu\text{g}/\text{kg}$)	100 μL DON Diluent and 100 μL Detection Solution 1
LOD 2 (800-1000 $\mu\text{g}/\text{kg}$)	150 μL DON Diluent and 50 μL Detection Solution 1
LOD 3 (1500-2000 $\mu\text{g}/\text{kg}$)	200 μL Detection Solution 2
LOD 4 (2500-3000 $\mu\text{g}/\text{kg}$)	80 μL DON Diluent and 120 μL Detection Solution 2

Note: It is very important to add the DON Diluent first and then add the Detection Solution to avoid the influences to red reagents due to higher concentration of Ethanol.

- Incubate 3mins at room temperature (20-40°C).
- Insert the dipsticks into the microwells after first incubation. Incubate another 3mins at room temperature.

- Take out the dipstick from the microwell and remove the sample pad at the lower end and then interpret the result.

Note: If the Room Temperature is below 20°C, please incubate at 40±2°C by Bioeasy incubator for same time period during the above two incubation steps.

Test Interpretation

Visual Interpretation

- Check whether the top control line(C line) is present. If there is normal C line, compare the color intensity of test line (T line) and C line and interpret the test based on following chart.

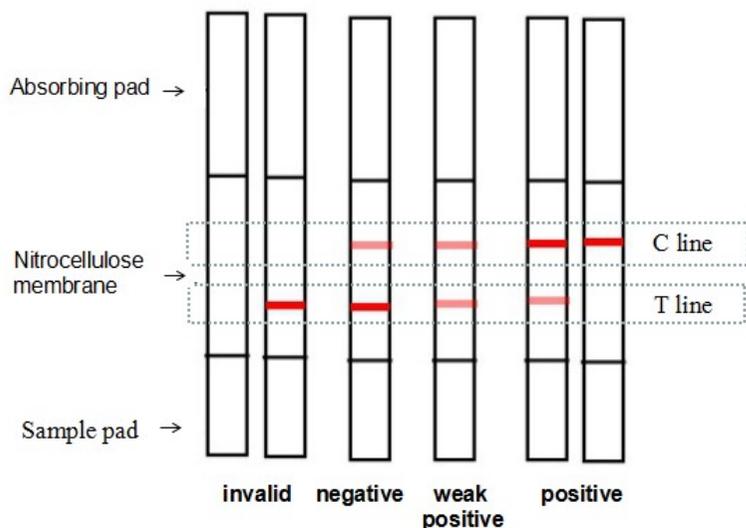
Test Line VS Control Line	Result Interpretation	Result Analysis
T>C	NEGATIVE	The sample contains no DON or contains DON at lower level than the detection limits
T=C	WEAK POSITIVE	The sample contains DON close to the detection limits
T <C or NO T	POSITIVE	The sample contains DON above the detection limits

- If there is no visible C line, the test is judged as invalid.

Interpretation by Reader

- Please refer to the reader instruction manual.
- Negative: $R > 1.1$, Weak positive: $0.9 \leq R \leq 1.1$, Positive: $R < 0.9$.

Interpretation diagram



Precautions

- It is advisable to use a clean table and wash hands thoroughly and wear gloves before testing to avoid any contamination of the test which is very sensitive to antibacterial substances.
- Get the kit from refrigerator and allow the kit warm up to room temperature before testing((15-30°C).
- Do not mix dipsticks and reagent microwells from different lots. Use dipsticks before it is expired.
- The tube with microwells and dipsticks should always be well closed after reagents have been taken out. Empty one tube before opening another and try to finish one tube within a week.
- Use a new pipette tip for every new sample.
- Hold the dipstick from the upper side(Absorbing pad side). Do not touch the lower end (Sample pad and Nitrocellulose membrane areas), which may affect the performance of the dipsticks.
- After the second incubation, read the result directly within 5mins. The result is invalid after more than 5mins.
- When a positive result is identified, repeat testing for double confirmation.
- If there is obvious breakpoint on the Test line, repeat the test.
- This product is only used for preliminary screening, and the final result shall be subject to the official arbitration detection methods.