SMART STRIP AFLA

Lateral flow test kit for the detection of total aflatoxins

cod. MA810

SMART STRIP AFLA is a test kit for the quantitative and qualitative detection of total aflatoxins in grain commodities. The kit contains all necessary reagents and procedures to run 20 determinations.

Assay principle: Immunochromatographic competitive assay on strip. Digital analysis of results is mandatory
Analysable materials: corn
Sample preparation: grinding, methanol-water extraction, filtration, dilution with buffer

Qualitative analysis	Quantitative analysis
Assay time: 5 minutes **Cut off:** 10 ppb	**Assay time:** 10 minutes **Measuring range:** 2 – 75 ppb (10 – 375 ppb by sample dilution)

1 PROVIDED MATERIALS

Test strips: 2 aluminium bags containing 10 strips each
Dilution buffer: 1 plastic bottle containing 6 ml of ready to use buffer
Datamatrix: 1, batch specific

2 REQUIRED NOT PROVIDED MATERIALS

2.1 For sample preparation and assay implementation

- Distilled water and methanol; alternatively Mycotoxin Extraction Solution A, cod. ME070
- Grinder
- Balance
- For each sample, two plastic or glass container having at least 50 ml capacity (i.e. centrifuge tube, jar) and one further small vial for the final dilution (i.e. micro-centrifuge tube). One Whatman 1 filter.
- 50-200 □l micropipette with proper tips
- 250 ml graduated cylinder, shaker, mini centrifuge - 5000 x g speed required- (optional)

2.2 For digital analysis

- Computer (Windows 7 32 or 64 bits, Windows 8 64 bits, Windows 8.1 64 bits, Windows 10 64 bits) with at least one USB port 2.0 or 3.0 (cod. AT600)
- LAB LFD reader (cod. LT900)

- Software Smart-Soft (cod. LT910)
- Template Smart-Strip- frame A (LT903)

3 PRECAUTIONS

- Store the kit at +2/+8°C, do not freeze.
- Take the strips from the bag and reseal immediately the unused cassettes together with provided desiccant.
- Don't use the kit after expiration.
- Don't use photocopies of the instruction booklet; use the kit insert only.
- For in vitro diagnostic use only.

4 SAMPLES PREPARATION

1. **Mix carefully the sample to get it homogeneous.**
2. **Finely grind the sample.**
3. **Weight 50 g of ground sample and add 150 ml of 70% methanol in distilled water solution – or 150 ml of ready to use Mycotoxin Extraction Solution, cod. ME070. Alternatively: weigh 10 g of ground sample and add 30 ml of 70% methanol in distilled water solution.**
4. **Shake thoroughly 3 minutes. It is suggested to shake manually or by a mild shaker system.**
5. **Filter the sample on Whatman 1 and collect the filtrate. Alternatively: allow the sample to settle down then take 1 ml of the upper phase and centrifuge 1 minute at 5000 x *g*.**
6. **Dilute the extract 1:3 with the dilution buffer (100 µl of sample+ 200 µl of buffer). The sample is ready to be run in the strip and analysed in the range 2 – 75 ppb.** *When calculating results, select "1:1" dilution factor in the software.*
7. **For > 75 ppb samples, dilute the filtrate 1:5 with 70% methanol and then 1:3 in the dilution buffer. The measuring range is hence 10 – 375 ppb.** *When calculating results, select "1:5" dilution factor in the software.*
8. **Mix by pipetting up and down the liquids.**

5 ASSAY PROCEDURE

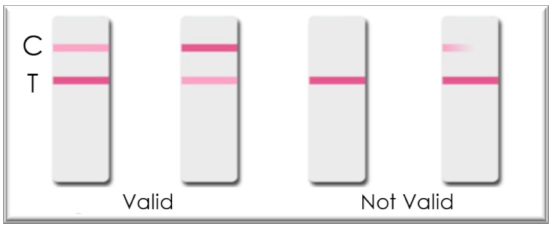
5.1. Preliminary comments

- Bring all the kit components to room temperature prior opening the bag. Refer to point 3 "Precautions" relative to the proper use of strips. Return all reagents to +2/+8°C immediately after use.
- Get the LAB LFD reader ready.

- Don't change the assay protocol, don't modify the incubation time nor the sample preparation protocol.
- Use a single disposable tip for each sample to avoid any cross-contamination.
- The assay is not suitable for visual interpretation.

5.2 Assay procedure

1. **In order to maintain sample traceability, label every lateral flow strip with sample code.**
2. **Take 100 µl of the diluted extract avoiding bubbles or foam and add it into the sample well of the cassette.**
3. **Incubate 5 or 10 minutes. The sample must be completely absorbed on the device.**
4. **When the incubation time expires, two coloured lines should be visible. One is labelled as T line (test line) and the other is C line (control line).**
5. **Read the developed strip within 1 minute. The colour intensity of C and T lines depends on the sample contamination. The C line is not supposed to disappear and should not be shaded. If C line is absent or smeared, consider the test as invalid. Do not put invalid tests into the reader.**



6 RESULTS ACQUISITION

6.1 Qualitative analysis with LAB LFD Reader

1. Scan the Datamatrix and proceed with results acquisition.
2. When **5 minutes** incubation expires, put the developed cassette face down in one frame slot.
3. **For < 10 ppb samples the concentration result will be displayed as "<2 ppb". Higher contaminations than 10 ppb in the sample will be displayed as digits.** Such concentration does not correlate to the quantitative result and is not to be considered the sample concentration. **In order to determine the total Afla concentration, wait until 10 minutes incubation** and repeat the reading.

6.2 Quantitative analysis with LAB LFD reader

1. Scan the Datamatrix and proceed with results acquisition.
2. When **10 overall minutes** incubation expires, put the developed cassette face down in one frame slot.

WARNING: substitution will be possible just in case of rendered kit. The kit must be conserved in its integral version as indicated in this booklet.

7 LIABILITY

Those samples that are detected as positive have to be tested again with a confirmatory method. Tecna shall not be liable for any damage to the customer caused by the improper use of this kit and for any undertaken action as a consequence of results. Tecna shall not be liable for unsafe use of the kit out of the current European safety regulations.