

# **RIDA<sup>®</sup> QUICK Aflatoxin**

Immunchromatographischer Test  
zum Nachweis von Aflatoxin

Immuno chromatographic test  
for the detection of Aflatoxin

Art. No.: R5204

In vitro Test

Lagerung bei (2 - 8 °C)

Storage (2 - 8 °C / 35 - 46 °F)

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# RIDA<sup>®</sup>QUICK Aflatoxin

## Brief information

RIDA<sup>®</sup>QUICK Aflatoxin (Art. No.: R5204) is an immunochromatographic test for the detection of aflatoxin in grain, soy flour, nuts, pistachios, coconut flour, sunflower seeds, figs, dates and cashew nuts.

All reagents required for the assay are contained in the test kit.

Results are read only visually.

Sample preparation: homogenization and extraction

Time requirement: sample preparation (for 10 samples)..... approx. 10 min  
test implementation (incubation time)... approx. 4 - 16 min

Detection limit: approx. 4 ppb

Specificity: The RIDA<sup>®</sup>QUICK Aflatoxin test reacts with aflatoxin in grain (corn, wheat, barley, rye, oats, rice, millet, canola), soy flour, nuts (peanut, hazelnut, almond, Brazil nut, Macadamia nut), pistachios, coconut flour, sunflower seeds, figs, dates and cashew nuts.

## 1. Intended use

RIDA<sup>®</sup>QUICK Aflatoxin is a semi-quantitative immunochromatographic test in strip format for the detection of aflatoxin in grain, soy flour, nuts, pistachios, coconut flour, sunflower seeds, figs, dates and cashew nuts.

## 2. General

Aflatoxins are secondary metabolites of the fungi species *Aspergillus flavus*, *parasiticus* and *nomius*. These fungi occur in humid tropical areas and the contamination of vegetable food takes place in the cultivable countries. Aflatoxins belong to the strongest natural occurring cancerogenic substances.

### 3. Test principle

The basis of the immunochromatographic assay in test strip formate is an antigen-antibody reaction. A specific antibody against aflatoxin recognizes the aflatoxin molecules in the samples. The results are read visually by observing the development of coloured bands.

The control band (control line) is not influenced by aflatoxin in the sample and should be present in all cases in order to prove the test strip is valid.

The test band (test line) is not visible in the absence of aflatoxin in the sample and if aflatoxin is present in concentrations of 4 ppb and higher the band is clearly visible.

### 4. Reagents provided

Each kit contains sufficient materials for 20 determinations. Each test kit contains:

- 20 x test strips (one for each determination, separately packed)
- 1 x mobile solvent (2.5 ml)
- 1 x evaluation card

### 5. Materials required but not provided

#### 5.1. Equipment:

- laboratory mincer / grinder
- balance
- optional: shaker
- optional: filter paper, Whatman No. 1 (equivalent or centrifuge)
- graduated cylinder
- 50 and 100 µl pipette  
(e.g. R-Biopharm FP 50 / FP 100, Art. No.: Z0006 / Z007)

#### 5.2. Reagents:

- methanol (70 %, (v/v)), exactly adjustment necessary

## 6. Warnings and precautions for the users

This test should only be carried out by trained employees. The instruction for use must be strictly followed.

The test strips are sensitive to humidity. Humid reaction strips may influence the test results negatively. For this reason keep the strips away from humidity. This has to be noted especially for already opened reaction strip packing.

## 7. Storage instructions

Store the kit at (2 - 8 °C / 35 - 46 °F ). DO NOT FREEZE the test strips.

No quality guarantee is accepted after expiry of the kit (see kit label).

Do not interchange individual reagents between kits of different lot numbers.

## 8. Sample preparation

**for:** grain (corn, wheat, barley, rye, oats, rice, millet, canola), soy flour, nuts (peanut, hazelnut, almond, Brazil nut, Macadamia nut), pistachios, coconut flour, sunflower seeds, figs, dates and cashew nuts

**Bring the mobile solvent (see 4.) necessary for sample preparation to room temperature (20 - 25 °C / 68 - 77 °F ) before use!**

The samples should be stored in a cool place, protected from light.

A representative sample (according to accepted sampling techniques) should be ground and thoroughly mixed prior to proceeding with the extraction procedure.

- weigh 10 g of ground sample into a suitable container and add 20 ml methanol (70 % )
- close the tube and shake the sample vigorously for 3 - 5 min (manually or with shaker / vortex)
- let the solution come to sedimentation for 3 min, filtrate or centrifuge
- prepare 100 µl of the temperate mobile solvent add 50 µl of the clear supernatant, mix it and use 100 µl in the test

## Remark:

**Please avoid methanol evaporation during sample preparation.**

**If necessary the sample weight can be changed. Then the volume of methanol has to be adapted, e.g. 5 g in 10 ml methanol (70 %)**

**Further application notes for *nutmeg and ginger* and for *paprika, chili and pepper* are available on request. Please contact your local distributor.**

## 9. Test procedure

- apply 100 µl of the sample solution (see 8. Sample preparation) on the application area of the test strip
- read the result after 4, 8 or 16 min

## 10. Results

The right band in the field of reaction is a control band (control line) and must appear after each test procedure. If the band is missing, the test result is not valid because of improper test procedure or deterioration of the reagents. Repeat the test with a new strip. If the right band is missing again, please inform your local distributor.

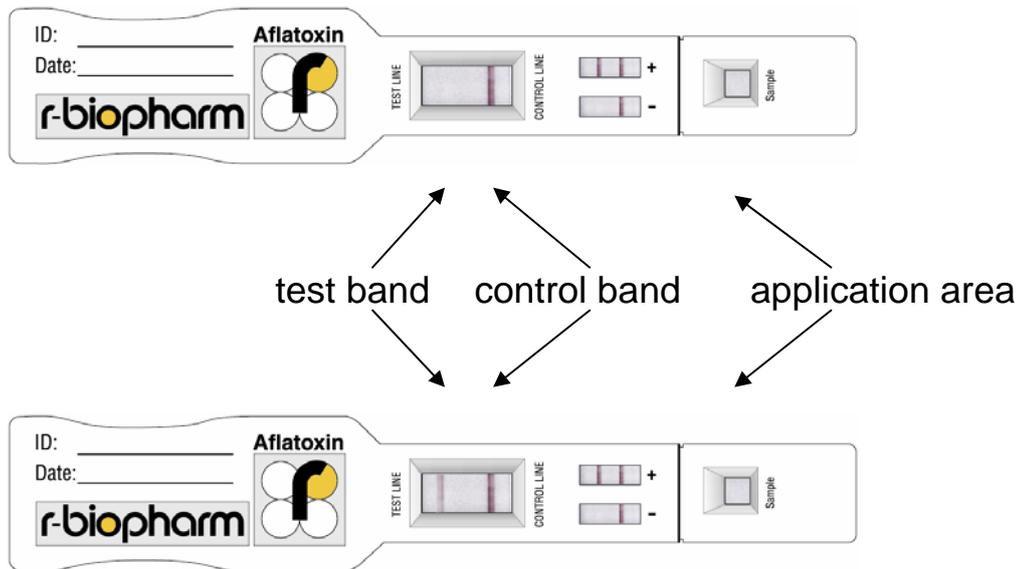
The control band is visible at least 2 min after applying the sample.

To obtain comparable results, the test strips must be evaluated visually after 4, 8 or 16 min, depending on the chosen detection limit. A final test evaluation should be done always after 16 min.

After this time the band darkens slightly during the drying process.

The evaluated test strips can be stored for several weeks and the bands remain unchanged visible.

Fig.1: negative result, aflatoxin level < 4 µg/kg (ppb)



positive result, aflatoxin level  $\geq$  4 µg/kg (ppb)

### 10.1. Control band

The test is valid, if **the control band (control line) is clearly visible.**

### 10.2. Negative sample

The sample is free of aflatoxin (or less than the detection limit), if only **the control band (control line) is clearly visible.**

### 10.3. Positive sample

The sample is contaminated with aflatoxin, if the **control band (control line) is visible and the test band (test line) is also visible** (20 ppb after 4 min, 10 ppb after 8 min, 4 ppb after 16 min).

**Table 1: interpretation of the results with related incubation times**

result	negative	20 ppb	10 ppb	4 ppb
control band*	+++	+++	+++	+++
test band after 4 min	--	+	--	--
test band after 8 min	--	++	+	--
test band after 16 min	--	+++	++	+

\* after 2 minutes clearly visible

- +++ = intensive colored band
- ++ = clearly visible band
- + = visible band
- = no band

## 11. Sensitivity

The RIDA<sup>®</sup>QUICK Aflatoxin test is capable of detecting aflatoxin contaminations of  $\geq 4 \mu\text{g}/\text{kg}$  (ppb),  $10 \mu\text{g}/\text{kg}$  (ppb) and  $20 \mu\text{g}/\text{kg}$  (ppb) depending on incubation time and color intensity of the test band. A positive result indicates that the sample has an aflatoxin content of  $\geq 4 \mu\text{g}/\text{kg}$  (ppb).

If the sample contains more than 50 ppb, the control band and test band appear in 2 minutes. In case of aflatoxin concentrations in the sample of 100 ppb or more the control band appears weaker than the test band.

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