

## RIDASCREEN<sup>®</sup> Sesame Art. No. R7202

The number of allergic responses to sesame is increasing as this food is now often used in vegetarian diets and overall the consumption of sesame has increased along with the awareness of a healthy lifestyle and nutrition. Furthermore, it can cause serious allergic symptoms like anaphylactic shocks. The only effective treatment to protect sensitized patients from allergic symptoms is a strict avoidance of sesame containing food. In the European Union, Canada and Australia sesame has to be labeled on pre-packaged food, since it belongs to major allergy-causing substances.

In food production, sesame-containing and sesame-free food is often produced on the same production lines. Therefore, unwanted cross-contamination with sesame is possible and the analysis of these foods is advised.

R-Biopharm has launched a very sensitive ELISA for the detection of sesame in raw and processed food, the RIDASCREEN<sup>®</sup>FAST Sesame (R7202). The limit of detection of this ELISA is 0.24 mg/kg (ppm) and the limit of quantification is 2.5 mg/kg (ppm) sesame. Each kit contains reagents for 48 measurements including standard analysis. The test needs only 3 times 10 min incubation and a 20 min extraction step. The result can be evaluated with RIDA<sup>®</sup>SOFT Win/RIDA<sup>®</sup>SOFT Win.net (Z9996) after reading the absorption at 450 nm.

Table 1 shows the results of spiked processed food with sesame. The mean recovery was 96.3 % for these difficult samples showing very good performance of the RIDASCREEN<sup>®</sup>FAST Sesame (R7202). The ELISA was intensively validated in-house and the complete validation report is available on request from your local distributor.

**Table 1:** Recovery (%) in spiked processed food

Sample description	Target sesame concentration (mg/kg)	Sesame concentration measured (mg/kg)	Recovery (%)
Snack cracker	2.5	2.8	112
	5.0	5.5	110
Rye bread bakery mix	2.5	2.3	92
	5.0	4.5	90
Chocolate dessert	2.5	2.1	84
	5.0	4.5	90
Mean recovery (%)			96.3



## New products

### RIDASCREEN® T-2 / HT-2 Toxin Art. No. R3805



Due to their many toxicological properties, mycotoxins are undesirable in foods and animal feedstuff.

R-Biopharm supplies a wide range of different test systems for the analysis of mycotoxins in various matrices in order to assess the level of mycotoxin contamination. Mycotoxins are toxic, secondary metabolic products which are formed by moulds. Up to now it is known that more than 250 types of mould can produce mycotoxins. Only a small portion of these occur in nature and are relevant to the safety of foods and feedstuff. These include aflatoxins, ochratoxins, ergot alkaloids, fusarium toxins (trichothecenes, e.g. DON, T-2 and HT-2 toxins, fumonisins and zearalenone), patulin and alternaria toxins. Growth of mould and therefore the production of mycotoxins depend on various ambient conditions in the field or during storage. As a result, the fungi are categorised as field or storage moulds. Mycotoxins from field fungi such as DON, zearalenone, T-2 toxin and fumonisin mainly enter the food chain via cereals and cereal products.

R-Biopharm have added another impor-

tant mycotoxin test, the new RIDASCREEN® T-2 / HT-2 Toxin test (R3805), to the current list of products available. This competitive enzyme immunoassay is suitable for the quantitative analysis of T-2 and HT-2 toxins in oat, corn, barley and wheat. The mycotoxins are extracted from the cereal samples with methanol / water and the concentration of mycotoxin present is determined by means of the standard curve (range: 1 - 36 ppb ( $\mu\text{g}/\text{kg}$ )). The standards (HT-2 toxin in methanolic solution) are available ready to use. The limit of detection is approx. 30 ppb (30  $\mu\text{g}/\text{kg}$ ) and the recovery in natural contaminated cereal samples (Trilogy® reference material, TR-MT100) was determined at 105 %  $\pm$  15 %. In spiked samples the recovery is 95 %  $\pm$  15 %.

The specificity of the RIDASCREEN® T-2 / HT-2 Toxin test was established by analyzing the cross-reactivity to corresponding mycotoxins in buffer system and for HT-2 toxin it is 100 %, for T-2 toxin approx. 85 %, for T-2 triol and for T-2 tetraol < 0,5 %.

The product manual and validation report are available on request, please ask your local distributor.

## Our products

### New applications for the screening of chloramphenicol in wine and enzymes

Since September 2013, residues of the antibiotic chloramphenicol have been detected in various imported enzyme products by the Rapid Alert System for Food & Feed of the European Union (RASFF). As the enzymes products were intended to be used in production of food and drinks (e.g. wine), the occurrence of chloramphenicol traces cannot be completely excluded, despite the use

#### RIDASCREEN® Chloramphenicol Art. No. R1505



of the enzymes in small amounts. Although it is assumed that there is no direct health risk for the consumer of potentially contaminated foodstuff at the moment, the laws of the European Union demand, that food must be completely free of prohibited substances such as chloramphenicol at any time. Therefore, R Biopharm developed a new method for the screening of chloramphenicol in enzymes, wine and grape juice with detection limits below the Minimum Required Performance Limit

(MRPL) of 300 ng/kg (ppt). A combination of immunoaffinity clean-up by RIDA® Chloramphenicol column (R1508) and analysis by RIDASCREEN® Chloramphenicol ELISA (R1505) allows an easy and sensitive screening of enzymes, wine and grape juice for residues of Chloramphenicol.

Application Notes and Validation reports are available on request.

## FSA collaborative study – R-Biopharm allergen kits show excellent recoveries

The FSA (Food Standards Agency in the UK) has carried out the study „Management of food allergens: from threshold doses to analysis in foods” durchgeführt ([http://www.foodbase.org.uk/results.php?f\\_category\\_id=&f\\_report\\_id=830](http://www.foodbase.org.uk/results.php?f_category_id=&f_report_id=830)).

In this collaborative study a dessert material was spiked with egg white or skimmed milk powder at 3, 6, 15 and 30 mg/kg. The dessert matrix consisted of starch, cocoa powder, sugar, corn oil and emulsifiers. All samples were blind-coded. The analysis was performed by immuno-assay using five kits each for egg and casein from different manufacturers. Altogether 17 international laboratories participated in this collaborative study.

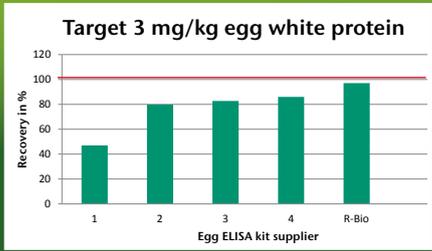
As can be seen in Figure 1 the R-Biopharm kit RIDASCREEN®FAST Ei/Egg Protein was the most accurate of the kits obtaining a recovery of 97 %.

All other egg ELISAs underestimated the target concentration (3 mg/kg) of egg in the samples.

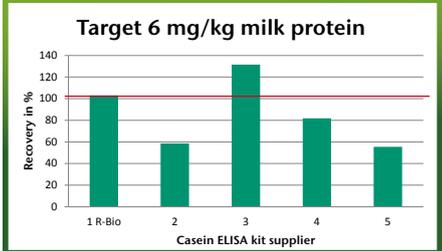
A much greater variability of results was observed for the analysis of milk protein in the dessert. At a target concentration of 6 mg/kg milk protein, the recoveries of the different Casein ELISAs ranged from 56 to 132 %. RIDASCREEN®FAST Casein (testkit 1) was the most accurate of the casein kits with a recovery of 103 % (see Figure 2).

Precise quantification of allergens in foods will become more important in the future. The R-Biopharm ELISAs showed excellent results in the FSA study. The RIDASCREEN® Allergen kits have been extensively validated (internally/externally) for different matrices and are reliable and robust. Special attention is always paid to the extraction procedure which is important to obtain good recoveries.

**Figure 1:** FSA collaborative study – RIDASCREEN®FAST Ei/Egg Protein shows the best recovery at 3 mg/kg



**Figure 2:** FSA collaborative study – RIDASCREEN®FAST Casein shows the best recovery at 6 mg/kg milk protein



**SureFood® PCR products from our partner  
CONGEN Biotechnologie GmbH, Berlin**

**New SureFood® PCR products**

The product range of animal species specification kits will be further extended in 2014. Especially innovative is the first **ANIMAL 4plex** kit for large and small ruminants **beef, sheep** and **goat** in combination with an internal animal species amplification control (IAAC – Identification Amplification Animal Control). With the use of a corresponding 4-channel qPCR thermocycler with the channels FAM, ROX, VIC/HEX, Cy5, the 3 ruminants can be specifically identified in a single reaction as well as the function of the reaction being confirmed. In addition, if these animal species are absent, it can be established whether another species is contained in the sample. This analysis is not only important for the correct labelling of meat and sausage. After the costly but successful elimination of the BSE crisis and the expected increase in the use of bone meal, it will become increasingly important to test **feedstuff** for the absence of ruminant material.

Also new is a quantitative test based on **genomic DNA** and therefore precise for **horse meat** (plus donkey and zebra).



As a consequence of the horse meat scandal, precise quantification of the proportion of horse meat has become of increasing interest. Additionally new are individual, qualitative tests with IAAC for **water buffalo, beef** and **chicken**.

Parameter	SureFood®	Characteristics of the test	Art.No.
Ruminants Beef/sheep/ goat	ANIMAL 4plex Beef/ Sheep/Goat + IAAC	qualitative multiplex assay	S6121
Beef	ANIMAL ID Beef IAAC	qualitative test	S6113
Chicken	ANIMAL ID Chicken IAAC	qualitative test	S6115
Water buffalo	ANIMAL ID Water-buffalo	qualitative test	S6117
Horse, donkey, zebra	ANIMAL QUANT Equus	quantitative test	S1016

As a new **PATHOGEN** (SureAqua®) parameter, in addition to specific screening for the *Legionella pneumophila* bacteria, a comprehensive screening for the *Legionella spp.* group is available. Due to energy saving measures and therefore reduced temperatures in hot water tanks, both of these parameters are becoming increasingly important for water analysis.

Parameter	SureFood®	Characteristics of the test	Art.No.
Legionella spp.	Legionella Screen PLUS	qualitative test	S5502

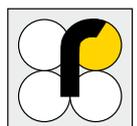
**If you are interested in our products,**

please contact your local distributor.

**RIDA®SOFT Win / RIDA®SOFT Win.net** Art. No. Z9996



If you are interested in an update of RIDA®SOFT Win or RIDA®SOFT Win.net, please contact your local distributor.



# Information from R-Biopharm Rhône, Scotland

## New Multi Mycotoxin Immunoaffinity Columns

There is a demand in the market for faster and less labor intensive tests and in response, R-Biopharm Rhône have launched AOF MS-PREP® (Art. No. RBRP115/115B). This product is a multi mycotoxin immunoaffinity column for use in combination with LC-MS/MS for the simultaneous analysis of aflatoxins, ochratoxin and fumonisins in maize and maize products. Immunoaffinity columns are the routine standard method of choice for complying with regulatory mycotoxin analysis and there is a growing need for tests kits that allow for the determination of multi-toxins. The new immunoaffinity columns contain monoclonal antibodies, which

selectively isolate and concentrate the toxins of interest, providing cleaner eluates and therefore leading to improved chromatography and ultimately lower limits of detection. Only one extraction is required per sample and the kit has been proven to give excellent recoveries and has a limit of detection below international legislative limits. The AOF MS-PREP® columns result in improved clean-up and less down time to clean and maintain the LC-MS/MS equipment saving time, labor and money. The cleaner eluate also reduces the need to use matrix matched standards.

## Multi Mycotoxin Analysis Including the Analysis of Masked Toxins

For the analysis of multiple mycotoxins it is recommended to use immunoaffinity columns for clean-up of complex matrices in conjunction with either HPLC or LC-MS/MS, depending on the customer requirements. R-Biopharm multi-toxin columns contain two or three mycotoxin antibodies in each

column, optimising the capture of toxins from similar extraction procedures.

- AOF MS-PREP® Art. No. RBRP115/115B
- AO ZON PREP® Art. No. RBRP112/112B
- DZT MS-PREP® Art. No. RBRP73/73B
- AFLAOCHRAPREP® Art. No. RBRP89/89B

### Interest has also been growing for the masked mycotoxins

A masked mycotoxin is a compound that's 'parent' mycotoxin is chemically altered into a conjugated or structurally related form of the original mycotoxin. These masked mycotoxins are thought to be just as toxic as the original parent mycotoxin but may behave very differently chemically and can be more complex to analyse. R-Biopharm immunoaffinity columns have been tested by several independent companies and have been found to cross react with many of the known masked

mycotoxins in commodities including beer and cereals. The immunoaffinity range from RBR offers the possibility to combine different toxin types depending on specific needs.

- DONPREP® Art. No. RBRP50/50B
- EASI-EXTRACT® Art. No. RBRP43/43B  
T-2 & HT-2
- EASI-EXTRACT® Art. No. RBRP91/90  
ZEARALENONE
- FUMONIPREP® Art. No. RBRP31

## Fairs and conferences Representative: R-Biopharm AG



31.03. - 02.04.2014	<b>Rapid Methods Europe 14</b> Noordwijkerhout, Netherlands
01.04. - 04.04.2014	<b>Analytica 2014</b> Hall A3, Stand 303, Munich, Germany
08.04. - 10.04.2014	<b>ASSET 2014</b> Belfast, Ireland
05.05. - 08.05.2014	<b>8<sup>th</sup> Food Allergen International Symposium</b> Vancouver, Canada
06.05. - 08.05.2014	<b>Foodsafe 14</b> Grenaa, Denmark
07.05. - 09.05.2014	<b>IAFP Europe</b> Budapest, Hungary
12.05. - 15.05.2014	<b>Vitamin Conference</b> Washington DC, USA
03.06. - 04.06.2014	<b>Free from Food</b> Brussels, Belgium
16.06. - 18.06.2014	<b>36. Mykotoxin Workshop</b> Göttingen, Germany
21.06. - 24.06.2014	<b>Annual Meeting &amp; Food Expo</b> New Orleans, USA

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## Analytical Solutions for Vitamins



### VitaFast®

Microbiological/enzymatical  
Microtiter Plate Test



### EASI-EXTRACT®

Immunoaffinity Columns  
for HPLC



### RIDASCREEN®

ELISA, Microtiter Plate



The next R-Biopharm<sup>news</sup> will be published in the II<sup>nd</sup> quarter 2014.

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