

## RIDASCREEN® Acetylgestagene for the detection of MPA

The hormone scandal in July of this year caused a great stir, not only in the affected companies and laboratories etc. but also at R-Biopharm. We would like to summarize the events briefly here.

Medroxyprogesterone acetate (MPA) is a synthetically produced hormone belonging to gestagens. Gestagens control the nidation and development of the embryo in the uterus. MPA is approved as a drug in both veterinarian and human medicine but prohibited for use in food producing animals in Germany. When MPA or other acetylgestagenes were used illegally in the past to enhance animal growth, these substances could only be reliably detected in fat and at best in perirenal fat. Several studies showed that the highest concentrations of residue were to be found in fat. MPA can only be detected in plasma within a few days after administration and urine is not suitable either for reliably detecting MPA.

As became known in July, a Belgian firm had procured pharmaceutical waste from Ireland for disposal. This waste contained

MPA. These pharmaceuticals were dissolved illegally in glucose syrup, which subsequently ended up in feed (e.g. pig swill) and also in food processing. In this special situation some samples which had been regarded as irrelevant up to now, suddenly became important. These incidents led to the closure of more than three thousand farms. In order to open these farms again, it was necessary to check the feed and the animals for slaughter within a very short time. However, there was no expectation of any acute danger to consumers health.

Using the RIDASCREEN® Acetylgestagene assay, it is possible to detect MPA in bovine perirenal fat. With the professional assistance of Prof. Dr. H. H. D. Meyer, we passed on recommendations to our customers for the preparation of samples of glucose syrup, drinks, feed, milk, sausages and meat products. In co-operation with a number of customers, and at this point we would like to thank them again for helping us, we were able to develop a method for processing samples of glucose syrup and feed.



# NEW PRODUCTS

## RIDASCREEN® Gliadin

Gluten-containing grain and gluten-containing grain products are top of the list in the allergy-triggering ingredients specified in the EU Commission's proposal of 14th Sept. 2001 on the complete declaration of food ingredients and allergens. Consequently, the detection of gluten is very important in quality control, food declarations and in selecting food for people with gluten intolerance. We discussed this topic already in our RIDA news issues IV/01 and II/98.

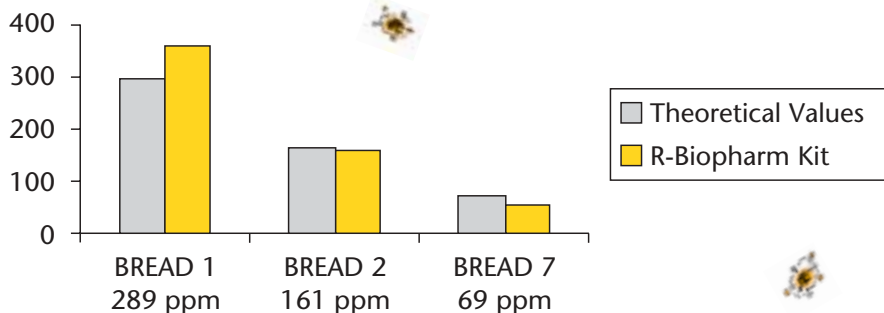
Under the Codex Standard, 200 ppm (mg/kg) is the limit value for gluten-free food and therefore 100 ppm (mg/kg) is established for prolamines. There is a discussion at the moment of lowering the limit to 20 ppm gluten for the definition of the term "gluten-free". The determination of gliadin in food and ingredients must be based on an immunological method and the process's detection limit should be at least 10 ppm in the product on a dry-matter basis.

With the use of new, monoclonal antibodies and the standards calibrated to the European gliadin standard, we have succeeded in developing the new RIDASCREEN® Gliadin test. This sandwich enzyme immunoassay for the quantitative detection of gliadin from wheat and related prolamines from rye and barley in food is a radical improvement on previous RIDASCREEN® Gluten tests. The sample preparation methods for the very different kinds of food as used in the RIDASCREEN® Gliadin test are nearly equivalent to the methods described for the RIDASCREEN® Gluten test. The improved sensitivity of the RIDASCREEN® Gliadin test, with a detection limit of 1.5 ppm (mg/kg) gliadin (3 ppm of gluten)



corresponds to 0.00015 % gliadin (0.0003% of gluten), is much lower than the required detection limits. The mono-clonal antibody used recognizes gliadin fractions in wheat, related prolamines from rye and barley as well as in a low quantity of oats. Accordingly, the new test is also optimised as regards specificity.

At present, the RIDASCREEN® Gliadin test is being validated in an international collaborative study by the prolamine working group (PWG) under the direction of Prof. Dr. Mendez, Centro Nacional de Biotecnología (CSIC), Madrid and Dr. Janssen, Food Inspection Service, Zutphen, Holland. Twenty laboratories are participating in the collaborative study, which will be carried out over the period from May to October 2002. A total of twelve different flour and starch samples are to be analysed. The results of the collaborative study are to be presented at the next PWG conference in October 2002. A mini ring test among five international laboratories was carried out before this collaborative study. A high level of agreement was obvious in all these laboratories detection in the five samples used. The sixth sample was correctly identified as negative by all participants.

Furthermore, three maize breads, spiked with 289, 161 and 69 ppm of gluten, and heat-treated (240°), were analysed in advance of the official collaborative analysis. The results were determined with the RIDASCREEN® Gliadin assay, among others. The tests were done by employees at CNB (Centro Nacional DE Biotecnología, Madrid, Spain) and the results of these analyses are shown in the following diagrams.



	Set Values	Mean	S.D.	C.V.
BREAD 1	289	351	20,6	5,9
BREAD 2	161	156,8	12,5	8
BREAD 7	69	52,9	2,7	5



Furthermore, a quantitative quick testing method (enzyme immunoassay), the RIDASCREEN®FAST Gliadin test, as well as a qualitative immunochromatographic rapid testing method, the RIDA®QUICK Gliadin test (dip stick), are under preparation. Both tests are based on the same monoclonal antibodies as were used in the RIDASCREEN® Gliadin test.

As soon as these tests are available, we shall report on them in greater detail. You will find this information in future on our home page: [www.r-biopharm.de](http://www.r-biopharm.de).


If you would like to know more about the RIDASCREEN® Gliadin test, please contact your local distributor.

## RIDASCREEN® Hazelnut

Since August 2002 we have been offering the RIDASCREEN® Hazelnut test, which, as already announced, is an interesting addition to the products we offer in the food allergen area.

The RIDASCREEN® Hazelnut test is a sandwich enzyme immunoassay for the quantitative determination of hazelnut or parts of hazelnut in food with the following specifications:

- Sample preparation for 10 samples: approx. 1 h (homogenising and extracting)
- Incubation time: approx. 1.5 hours (regardless of the number of samples)
- Standard range: 10 - 160 mg/kg (ppm)
- Detection limit: 10 ppm hazelnut (about 0.001%)
- Recovery rate: hazelnut in chocolate 80 - 130%
- Specificity: hazelnut proteins



Extracts from oats, maize, wheat, barley, sesame or soybean do not distort test results. Different kernels, such as Brazil nut, peanut, almond, cashew, pistachio, pecan nut and sunflower seeds were tested. Due to their extremely low reactivity, these types do not distort test results either.

If you would like to know more about the RIDASCREEN® Hazelnut test, please contact your local distributor.



## Tests to detect DON

We expect to be able soon to provide immunoaffinity columns for detecting DON. We ask all customers who would like to evaluate these columns to get in touch with your local distributor.

In addition to this new product, we will offer in autumn a rapid testing method

in the form of a test strip (dip stick) for detecting DON. This test's detection limit is 1 ppm at present. However, we are trying to reduce the detection limit to 0.5 ppm. Anyone interested in this product should get in touch with the local distributor, too.

# Regarding our products

## Newly designed home page

Our presence in the Internet has been re-designed and updated. Missing products are being included bit by bit. We ask all our customers to be patient

and understanding if they cannot find the information they are looking for on some products yet. Visit our home page, it's well worth it: [www.r-biopharm.de](http://www.r-biopharm.de).

## Poster from DG Joint Research Centre, Ispra, Italy

In a poster with the title "Survey of deoxynivalenol in beer using a commercially available enzyme immunoassay method", the EC Joint Research Centre has published an overview of DON contamination in 301 beer samples obtained from various countries. The results were found with the RIDASCREEN® DON test (R2901). Most samples contained DON and the mean value was 11.3 ppb.

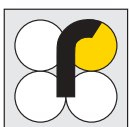
Furthermore, the results of an inter-laboratory study on the evaluation of the RIDASCREEN® Risk Material Tests were published in a poster with the title "Evaluation of GFAP-ELISA to

quantify central nervous system tissues in processed meat products - Results of an inter-laboratory study". Twenty one laboratories in nine European countries participated in this study. The twenty four samples with three different CNS concentrations and different heat treatments were quantitatively evaluated. It was found that the linear regression was suitable for quantification. The reproducibility of the test was proven by means of a statistical investigation.

Copies and/or pdf-files of both posters can be requested from your local distributor.

## Dates for meetings and fairs up to the end of 2002

- 06. - 10. September: European Poultry Conference in Bremen
- 12. - 15. November: Euro Tier 2002 in Hannover
- 13. - 15. November: BRAU Beviale 2002 in Nürnberg
- 20. - 23. November: Medica in Düsseldorf



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