

# Product catalogue 2021

Food & Feed Analysis



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# Overview of test systems by R-Biopharm



## ELISA – RIDASCREEN®

- Quantitative results
- Applications for many matrices
- Analysis by RIDASOFT® Win.NET
- Can be automated



## LFD – RIDA®QUICK

- Immunochromatographic tests
- Applications for many matrices
- Quantitative evaluation (analysis by RIDA®SMART APP)



## Immunoaffinity columns – PREP®, EASI-EXTRACT®

- For sample preparation prior to analysis by HPLC, LC-MS/MS or ELISA
- Single and multiparameter
- High specificity
- For simple and complex matrices



## Enzymatic analytics – Roche, Enzytec™, RIDA®CUBE

- UV-tests (reference methods)
- Tests for automation
- Single-use cartridge system



### Real-time PCR – SureFood®/SureFast®/GEN-IAL®

- Modular, open test systems
- DNA/RNA preparation, screening, identification, quantification
- Single and multiplex tests
- Suitable for all common real-time thermal cyclers



### Quality assurance

- Certified reference materials (naturally contaminated)
- Certified mycotoxin standard solutions
- Quality control materials
- Analytical standards for calibration (crystalline & liquid)
- RIDA® spiking solutions for validations



### Software – assay evaluation

- Smartphone application for mycotoxin quantification: RIDA®SMART APP
- Test evaluation with RIDASOFT® Win.NET
- Tailored software solutions for test procedure



### Equipment/automation

- Small analyzer for on-site testing
- Automates for ELISA processing
- Instruments for online sample preparation and purification (HPLC)



# Enzymatic analysis for food and feed

**Enzymatic tests are widely used as analytical tools for the analysis of food products such as fruit juices, wine or beer, dairy products, eggs and meat. Enzymatic tests allow to determine sugars, acids, alcohols and a few other food components.**

They are based on high quality enzymes, enabling precise and specific measurements of each compound, even in complex matrices. Results are measured with a spectrophotometer, automation is possible. Numerous enzymatic methods have been approved or validated by international organisations.

Enzytec™ *Liquid* kits are produced by R-Biopharm. These reagents are all liquid, ready-to-use and stable, so they can be placed directly on any biochemistry analyser and stay on board for true random-access.

The “Yellow Line” kits are produced by Roche Diagnostics (previously Boehringer Mannheim), with more than 40 years of

experience in the production of the enzymes, which are the key element of each test. The Roche test kits have been used and validated worldwide for several decades, with many corresponding publications. They have been selected as reference method by many international organizations and they are still the reference quality today.

As an alternative, R-Biopharm also offers the Enzytec™ *Generic* line, which includes enzymatic or colorimetric assays.

The newest product line RIDA®CUBE enables single testing. The test cartridges are ready-to-use and allow a rapid analysis. The RIDA®CUBE kits can only be used in combination with the RIDA®CUBE SCAN instrument.



### Enzytec™ Liquid

- Liquid, ready-to-use reagents
- Stable until end of shelf-life, even after opening
- Easy and safe use on biochemistry analysers



### Roche "Yellow Line"

- Reference quality for more than 40 years
- 31 tests for all requirements in the food industry
- Produced by Roche Diagnostics



### RIDA®CUBE SCAN

- Small but precise like a big biochemistry analyser
- Ready-to-use test cartridges for single testing
- Only one pipetting step and a result after 15 minutes



## Enzymatic food analysis

### Enzytec™ Liquid

Product	Description	No. of tests/amount	Art. No.
<b>Acids</b>			
Acetic acid	Enzymatic test (340 nm)	2 x 25 determinations	E8226
Citric acid	Enzymatic test (340 nm)	2 x 25 determinations	E8230 Coming soon
Gluconic acid	Enzymatic test (340 nm)	2 x 25 determinations	E8520 Coming soon
D-/L-Lactic acid*	Enzymatic test (340 nm)	2 x 25 determinations	E8240
D-Lactic acid	Enzymatic test (340 nm)	2 x 25 determinations	E8245 Coming soon
L-Lactic acid	Enzymatic test (340 nm)	2 x 25 determinations	E8260
L-Malic acid	Enzymatic test (340 nm)	2 x 25 determinations	E8280
<b>Sugars</b>			
D-Galactose	Enzymatic test (340 nm)	2 x 25 determinations	E8120
D-Glucose	Enzymatic test (340 nm)	2 x 25 determinations	E8140
D-Glucose/D-Fructose	Enzymatic test (340 nm)	2 x 25 determinations	E8160
Lactose/D-Galactose*	Enzymatic test (340 nm)	2 x 25 determinations	E8110
Lactose/D-Glucose*	Enzymatic test (340 nm)	2 x 25 determinations	E8130
Sucrose/D-Glucose*	Enzymatic test (340 nm)	2 x 25 determinations	E8180
Sucrose/D-Glucose/D-Fructose*	Enzymatic test (340 nm)	2 x 25 determinations	E8190
<b>Others</b>			
Ammonia	Enzymatic test (340 nm)	2 x 25 determinations	E8390
Urea/Ammonia	Enzymatic test (340 nm)	2 x 25 determinations	E8395
Ethanol AOAC Official Method First Action	Enzymatic test (340 nm)	2 x 25 determinations	E8340
Glycerol	Enzymatic test (340 nm)	2 x 25 determinations	E8360
SO <sub>2</sub> -Total (Total Sulfite)	Colorimetric test (340 nm)	2 x 50 tests	E8600
SO <sub>2</sub> -Free (Free Sulfite)	Colorimetric test (340 nm)	2 x 50 tests	E8610

\* Without differentiation.

## Standards

Alcohol standard	Alcohol assay control solution	10 x 1 mL	E5420
Enzytec™ Multi-acid standard low	Multi-acid assay control solution	3 x 3.5 mL	E8460
Enzytec™ Multi-acid standard high	Multi-acid calibration solution for automation	3 x 3.5 mL	E8465
Enzytec™ Multi-sugar standard low	Multi-sugar assay control solution	3 x 3.5 mL	E8440
Enzytec™ Multi-sugar standard high	Multi-sugar calibration solution for automation	3 x 3.5 mL	E8445



## Enzymatic food analysis

### "Yellow Line" Roche Diagnostics

Product	Description	No. of tests/amount	Art. No.
<b>Acids</b>			
<b>Enzymatic test</b>			
Acetic acid	Enzymatic test (340 nm)	3 x 11 determinations	10148261035
L-Ascorbic acid	Enzymatic test (578 nm)	21 determinations	10409677035
Citric acid	Enzymatic test (340 nm)	3 x 12 determinations	10139076035
Formic acid	Enzymatic test (340 nm)	21 determinations	10979732035
D-Gluconic acid	Enzymatic test (340 nm)	27 determinations	10428191035
L-Glutamic acid	Enzymatic test (492 nm)	3 x 13 determinations	10139092035
D-3-Hydroxybutyric acid	Enzymatic test (492 nm)	3 x 12 determinations	10907979035
D-Isocitric acid	Enzymatic test (340 nm)	33 determinations	10414433035
D-/L-Lactic acid	Enzymatic test (340 nm)	30 determinations each	11112821035
L-Lactic acid	Enzymatic test (340 nm)	30 determinations	10139084035
D-Malic acid	Enzymatic test (340 nm)	3 x 11 determinations	11215558035
L-Malic acid	Enzymatic test (340 nm)	30 determinations	10139068035
Succinic acid	Enzymatic test (340 nm)	11 determinations	10176281035
<b>Sugars</b>			
<b>Enzymatic test</b>			
D-Glucose	Enzymatic test (340 nm)	3 x 45 determinations	10716251035
D-Glucose/D-Fructose	Enzymatic test (340 nm)	27 determinations each	10139106035
Lactose/D-Galactose	Enzymatic test (340 nm)	32 determinations	10176303035
Lactose/D-Glucose	Enzymatic test (340 nm)	32 determinations each	10986119035
Maltose/Sucrose/D-Glucose	Enzymatic test (340 nm)	15 determinations each	11113950035
Raffinose	Enzymatic test (340 nm)	32 determinations	10428167035
Sucrose/D-Glucose	Enzymatic test (340 nm)	22 determinations each	10139041035
Sucrose/D-Glucose/D-Fructose	Enzymatic test (340 nm)	22 determinations each	10716260035
Starch	Enzymatic test (340 nm)	27 determinations	10207748035
<b>Others</b>			
<b>Enzymatic test</b>			
Acetaldehyde	Enzymatic test (340 nm)	3 x 11 determinations	10668613035
Ammonia	Enzymatic test (340 nm)	50 determinations	11112732035
Urea/Ammonia	Enzymatic test (340 nm)	25 determinations each	10542946035
Cholesterol	Enzymatic test (405 nm)	31 determinations	10139050035
Ethanol	Enzymatic test (340 nm)	33 determinations	10176290035
Glycerol	Enzymatic test (340 nm)	3 x 11 determinations	10148270035
Nitrate	Enzymatic test (340 nm)	3 x 13 determinations	10905658035
D-Sorbitol/Xylitol	Enzymatic test (492 nm)	3 x 12 determinations	10670057035
Sulfite (SO <sub>2</sub> )	Enzymatic test (340 nm)	31 determinations	10725854035



## Enzymatic food analysis

### Enzytec™ Generic

Product	Description	No. of tests/amount	Art. No.
<b>Acids</b>			
Acetic acid	Enzymatic test (340 nm)	2 x 16 determinations	E1226
L-Ascorbic acid	Enzymatic test (578 nm)	3 x 8 determinations	E1267
Citric acid	Enzymatic test (340 nm)	24 determinations	E1214
D-Gluconic acid	Enzymatic test (340 nm)	32 determinations	E1223
D-/L-Lactic acid	Enzymatic test (340 nm)	32 determinations	E1255
L-Lactic acid	Enzymatic test (340 nm)	32 determinations	E1254
L-Malic acid	Enzymatic test (340 nm)	32 determinations	E1215
Oxalic acid	Enzymatic test (590 nm)	10 determinations	E2100
<b>Sugars</b>			
D-Glucose	Enzymatic test (340 nm)	32 determinations	E1210
D-Glucose/D-Fructose	Enzymatic test (340 nm)	32 determinations each	E1245
D-Glucose/D-Fructose/Sucrose	Enzymatic test (340 nm)	16 determinations each	E1247
D-Glucose/Sucrose	Enzymatic test (340 nm)	16 determinations each	E1246
Lactose/D-Galactose	Enzymatic test (340 nm)	32 determinations	E1213
Starch	Enzymatic test (340 nm)	32 determinations	E1268

### Enzytec™ Color

<b>Colorimetric assays</b>			
β-Glucan (GlucaTest® S125)	Colorimetric test (550 nm)	125 mL (40 tests)	E3500
β-Glucan (GlucaTest® L500)	Colorimetric test (550 nm)	4 x 125 mL (160 tests)	E3550
Copper	Colorimetric test (580 nm)	2 x 50 mL	E2400
Iron	Colorimetric test (580 nm)	4 x 100 mL	E2300
Tartaric acid	Colorimetric test (520 nm)	2 x 80 mL	E3100

### Miscellaneous

Enzytec™ Sample purifier	Sample preparation for Enzymatic tests	20 samples	E2250
Enzytec™ Glucose remover	For removal of glucose excess in samples	32 samples	E3400
Cuvettes Holder	For 1 cm cuvettes with 2 x 8 positions	1 pc.	10019624035
Plastic Spatulas	For mixing steps	500 pcs.	10019623035





## Enzymatic food analysis

### RIDA®CUBE (only for RIDA®CUBE SCAN\*\*)

Product	Description	No. of tests/amount	Art. No.
<b>Acids</b>			
<b>Ready-to-use cartridges</b>			
Acetic acid	Enzymatic test only with RIDA®CUBE SCAN (340 nm)	32 determinations	RCS4226
D-/L-Lactic acid*	Enzymatic test only with RIDA®CUBE SCAN (340 nm)	32 determinations	RCS4240
L-Lactic acid	Enzymatic test only with RIDA®CUBE SCAN (340 nm)	32 determinations	RCS4260
L-Malic acid	Enzymatic test only with RIDA®CUBE SCAN (340 nm)	32 determinations	RCS4280
<b>Sugars</b>			
D-Galactose	Enzymatic test only with RIDA®CUBE SCAN (340 nm)	32 determinations	RCS4120
Glucose	Enzymatic test only with RIDA®CUBE SCAN (340 nm)	32 determinations	RCS4140
D-Glucose/D-Fructose*	Enzymatic test only with RIDA®CUBE SCAN (340 nm)	32 determinations	RCS4160
Lactose/D-Galactose*	Enzymatic test only with RIDA®CUBE SCAN (340 nm)	32 determinations	RCS4110
Lactose/D-Glucose*	Enzymatic test only with RIDA®CUBE SCAN (340 nm)	32 determinations	RCS4130
Sucrose/D-Glucose*	Enzymatic test only with RIDA®CUBE SCAN (340 nm)	32 determinations	RCS4180
Sucrose/D-Glucose/D-Fructose*	Enzymatic test only with RIDA®CUBE SCAN (340 nm)	32 determinations	RCS4190
<b>Others</b>			
Ammonia	Enzymatic test only with RIDA®CUBE SCAN (340 nm)	32 determinations	RCS4390
Ethanol	Enzymatic test only with RIDA®CUBE SCAN (340 nm)	32 determinations	RCS4340
SO <sub>2</sub> -Free (Free Sulfite)	Colorimetric test only with RIDA®CUBE SCAN (340 nm)	32 determinations	RCS4610
SO <sub>2</sub> -Total (Total Sulfite)	Colorimetric test only with RIDA®CUBE SCAN (340 nm)	32 determinations	RCS4600

\* Without differentiation.

\*\* See page 92 – • Equipment/software/accessories.



## Enzymatic food analysis

	"Yellow Line" Roche Diagnostics, the reference method	Enzytec™ Liquid Liquid, ready to use and stable reagents	RIDA® CUBE SCAN Single-test cartridges
<b>Acids</b>			
Acetic acid (340 nm)	10148261035	E8226	RCS4226
L-Ascorbic acid (578 nm)	10409677035		
Citric acid (340 nm)	10139076035	E8230	
Formic acid (340 nm)	10979732035		
Gluconic acid (340 nm)	10428191035	E8520	
Glutamic acid (492 nm)	10139092035		
D-3-Hydroxybutyric acid (492 nm)	10907979035		
D-Isocitric acid (340 nm)	10414433035		
D-/L-Lactic acid (340 nm)	11112821035	E8240	RCS4240
L-Lactic acid (340 nm)	10139084035	E8260	RCS4260
D-Malic acid (340 nm)	11215558035		
L-Malic acid (340 nm)	10139068035	E8280	RCS4280
Oxalic acid (580 nm)		E2100	
Succinic acid (340 nm)	10176281035		
Tartaric acid (520/546 nm)		E3100	
<b>Sugars</b>			
β-Glucan (546 nm)		E3500/E3550	
D-Glucose (340 nm)	10716251035	E8140	RCS4140
D-Galactose (340 nm)		E8120	RCS4120
D-Glucose/D-Fructose (340 nm)	10139106035	E8160	RCS4160
Lactose/D-Galactose (340 nm)	10176303035	E8110 (*E8120)	RCS4110 (*RCS4120)
Lactose/D-Glucose (340 nm)	10986119035	E8130 (*E8140)	RCS4130 (*RCS4140)
Maltose/Sucrose/D-Glucose (340 nm)	1113950035		
Raffinose (340 nm)	10428167035		
Starch (340 nm)	10207748035		
Sucrose/D-Glucose (340 nm)	10139041035	E8180 (*E8140)	RCS4180 (*RCS4140)
Sucrose/D-Glucose/D-Fructose (340 nm)	10716260035	E8190	RCS4190
<b>Others</b>			
Acetaldehyde (340 nm)	10668613035		
Ammonia (340 nm)	1112732035	E8390	RCS4390
Urea/Ammonia (340 nm)	10542946035	E8395	
Cholesterol (405 nm)	10139050035		
Copper (580 nm)		E2400	
Ethanol (340 nm)	10176290035	E8340	RCS4340
Glycerol (340 nm)	10148270035	E8360	
Iron (580 nm)		E2300	
Nitrate (340 nm)	10905658035		
D-Sorbitol/Xylitol (492 nm)	10670057035		
Free Sulfite (340 nm)		E8610	RCS4610
Total Sulfite (340 nm)	10725854035	E8600	RCS4600
<b>Standards</b>			
Alcohol standard		E5420	
Multi-acid standards (low and high)		E8460/E8465	
Multi-sugar standards (low and high)		E8440/E8445	

\* Required for differentiation.





# Vitamin analysis in food, feed and vitamin containing products

**Food products are now being enriched and fortified with vitamins in many forms. But does the amount present in the food at the end of the shelf life match the label on the package?**

Food manufacturers, regulatory agencies and commercial laboratories should therefore have analytical methods on hand that allow them to quickly and reliably determine the natural and added vitamin content of food products.

## **Product testing:**

There are different methods for analyzing water soluble vitamins: ELISA, immunoaffinity columns (IAC), microbiological and enzymatic microtiter plate tests. The RIDASCREEN®FAST Vitamin B12 and Folic Acid tests allow a quantitative determination of both vitamins within 1 h. The total vitamin B12 content is determined without using cyanide. Regarding folic acid the added vitamin content is determined.

When using immunoaffinity columns in conjunction with HPLC or LC-MS/MS, the sample is purified and the vitamin is retained by the antibody in the column. Using the EASI-EXTRACT® VITAMIN B12 and BIOTIN (columns), you can determine the total vitamin content. With the EASI-EXTRACT® FOLIC ACID (column) you can only determine added folic acid. Depending on the sample preparation the added or total vitamin content can be determined with the microbiological VitaFast® test. With the enzymatic VitaFast® Vitamin C test in microtiter plate format a determination of total vitamin C content (L-ascorbic acid and L-dehydroascorbic acid) is possible.



### VitaFast® Microbiological test

- Samples with an added or natural vitamin content can be analyzed
- Method in conformity with official guidelines (section 64 of the German Food & Feed Act, AOAC)
- AOAC-RI certification for some VitaFast® tests
- Ready-to-use reagents and standards for 96 determinations
- Results available within 24 - 48 hours



### RIDASCREEN® ELISA

- Determination of total vitamin B12 content
- Determination of added folic acid vitamin
- One sample preparation procedure and one identical sample buffer for RIDASCREEN®FAST B12 and Folic Acid
- Results within 1 h
- Ideal for process control



### EASI-EXTRACT® Immunoaffinity columns

- Isolation and concentration of the vitamin
- Pigments and interfering compounds are removed
- High recovery and low coefficient of variation



## Vitamins

### VitaFast®

Product	Description	No. of tests/amount	Art. No.
<b>Microbiological microtiter plates</b>			
VitaFast® Folsäure/ Folic Acid AOAC-RI 100903	Quantitative determination of the total vitamin content (added and natural) or of the added vitamin only Limit of detection: 0.018 µg/100 g (mL)	96 determinations	P1001
VitaFast® Vitamin B12 (Cyanocobalamin) AOAC-RI 101002	Quantitative determination of the total vitamin content (added and natural) or of the added vitamin only Limit of detection: 0.021 µg/100 g (mL)	96 determinations	P1002
VitaFast® Vitamin B7 (Biotin) AOAC-RI 101001	Quantitative determination of the total vitamin content (added and natural) or of the added vitamin only Limit of detection: 0.013 µg/100 g (mL)	96 determinations	P1003
VitaFast® Vitamin B3 (Niacin)	Quantitative determination of the total vitamin content (added and natural) or of the added vitamin only Limit of detection: 0.0048 mg/100 g (mL)	96 determinations	P1004
VitaFast® Pantothersäure/ Pantothenic Acid AOAC-RI 100904	Quantitative determination of the total vitamin content (added and natural) or of the added vitamin only Limit of detection: 0.0035 mg/100 g (mL)	96 determinations	P1005
VitaFast® Vitamin B1 (Thiamin)	Quantitative determination of the total vitamin content (added and natural) or of the added vitamin only Limit of detection: 0.008 mg/100 g (mL)	96 determinations	P1006
VitaFast® Vitamin B2 (Riboflavin) AOAC-RI 100902	Quantitative determination of the total vitamin content (added and natural) or of the added vitamin only Limit of detection: 0.0018 mg/100 g (mL)	96 determinations	P1007
VitaFast® Vitamin B6 (Pyridoxin)	Quantitative determination of the total vitamin content (added and natural) or of the added vitamin only Limit of detection: 0.0002 mg/100 g (mL)	96 determinations	P1008
VitaFast® Inositol	Quantitative determination of the total vitamin content (added and natural) Limit of detection: 0.5 mg/100 g (mL)	96 determinations	P1009
<b>Enzymatic microtiter plate</b>			
VitaFast® Vitamin C (L-Ascorbic Acid)	Quantitative determination of vitamin C (L-ascorbic acid and L-dehydroascorbic acid) possible Limit of detection: 7.8 mg/100 g (mL)	50 determinations	P1010
<b>Spiking standards</b>			
VitaFast® Folsäure/ Folic Acid Spiking standard	Folic Acid in solid form	3 vials	P3001
VitaFast® Vitamin B12 (Cyanocobalamin) Spiking standard	Cyanocobalamin in solid form	3 vials	P3002
VitaFast® Vitamin B7 (Biotin) Spiking standard	D-Biotin in solid form	3 vials	P3003
VitaFast® Pantothersäure/ Pantothenic Acid Spiking standard	Ca-D-Pantothenat in solid form	3 vials	P3005
<b>Enzyme</b>			
VitaFast® Chicken Pancreatin	Enzyme for sample preparation for determination of natural folic acid	1 vial for 50 sample preparations	P2002





## Vitamins

### RIDASCREEN®

Product	Description	No. of tests/amount	Art. No.
<b>ELISA microtiter plates</b>			
RIDASCREEN®FAST Vitamin B12	Enzyme immunoassay for quantitative analysis of total vitamin B12 in fortified food and vitamin products Limit of detection: 0.5 µg/kg	48 determinations Incubation time: 25 min	R2103
RIDASCREEN®FAST Folsäure / Folic Acid	Enzyme immunoassay for quantitative analysis of added folic acid in fortified food and vitamin products Limit of detection: 0.5 µg/kg	48 determinations Incubation time: 25 min	R3203



### EASI-EXTRACT®

<b>Immunoaffinity columns</b>			
EASI-EXTRACT® VITAMIN B12	Immunoaffinity columns for sample clean-up prior to the analysis of vitamin B12 using HPLC or LC-MS/MS	10 columns (3 mL format) 50 columns (3 mL format)	RBRP80 RBRP80B
EASI-EXTRACT® VITAMIN B12 (LGE) AOAC „Final Action Method“ 2014.2	Immunoaffinity columns for sample clean-up prior to the analysis of vitamin B12 using HPLC or LC-MS/MS	10 columns (10 mL format) 50 columns (10 mL format)	RBRP88 RBRP88B
EASI-EXTRACT® FOLIC ACID	Immunoaffinity columns for sample clean-up prior to the analysis of folic acid using HPLC or LC-MS/MS	10 columns (3 mL format) 50 columns (3 mL format)	RBRP81 RBRP81B
EASI-EXTRACT® BIOTIN AOAC „First Action“ certified	Immunoaffinity columns for sample clean-up prior to the analysis of biotin using HPLC or LC-MS/MS	10 columns (3 mL format) 50 columns (3 mL format)	RBRP82 RBRP82B
EASI-EXTRACT® MULTI-VIT B (LGE)	Immunoaffinity columns for sample clean-up prior to the analysis of biotin, vitamin B12 and folic acid using HPLC	10 columns (10 mL format) 50 columns (10 mL format)	RBRP183 RBRP183B



### IMMUNOPREP® automated online analysis

<b>Online Immunoaffinity columns</b>			
IMMUNOPREP® ONLINE VITAMIN B12	Online immunoaffinity cartridges used in conjunction with the RIDA®CREST handling system for the automated clean-up and analysis of vitamin B12 with HPLC	48 cartridges 96 cartridges	RBRP800/48 RBRP800





## Vitamins

Vitamins	VitaFast®	EASI-EXTRACT®	RIDASCREEN®
	Microbiological/enzymatic tests	Immunoaffinity columns	ELISA
Folsäure / Folic Acid	•	•	•
Vitamin B12 (Cyanocobalamin)	•	•	•
Vitamin B7 (Biotin)	•	•	
Vitamin B3 (Niacin)	•		
Pantothersäure / Pantothenic Acid	•		
Vitamin B1 (Thiamin)	•		
Vitamin B2 (Riboflavin)	•		
Vitamin B6 (Pyridoxin)	•		
Inositol	•		
Vitamin C (L-Ascorbic Acid)	•		

Vitamins	VitaFast®
Folic Acid Spiking standard	•
Vitamin B12 Spiking standard	•
Vitamin B7 (Biotin) Spiking standard	•
Pantothenic Acid Spiking standard	•
Chicken Pancreatin	•







# Mycotoxin analysis in food and feed

**Mycotoxins are toxic secondary metabolites produced by fungi (moulds). Mycotoxins can be formed in agricultural products, such as cereals, and can also occur in related food, meat and dairy products originating from farm animals.**

Due to the frequent occurrence of mycotoxins and their severe toxic effects on animals and humans, maximum levels (MLs) for the major mycotoxins have been set by legislative bodies. In accordance with these guidelines specific sample preparation and detection methods were developed. These include enzyme immunoassays, lateral flow devices or immunoaffinity columns, etc.

## **Assays for the screening of mycotoxins in food and feed:**

- RIDASCREEN® enzyme immunoassays (ELISAs) use the high specificity of antigen and antibody interaction to determine and quantify mycotoxins by photometric measurement.
- RIDA®QUICK lateral flow tests are immunochromatographic tests for the quantitative determination of mycotoxins with the innovative RIDA®SMART APP software or the RIDA®QUICK SCAN reader.
- Test cards, AFLACARD and OCHRACARD, allow a qualitative screening of mycotoxins at various levels in food and feed commodities.
- Immunoaffinity columns (RIDA®, EASI-EXTRACT®, PREP®) use the high specificity of antigen and antibody interaction to isolate, purify and concentrate mycotoxins from many complex matrices prior to ELISA or chromatographic analysis.
- Clean-up columns (PuriTox) are solid phase columns for the purification of mycotoxin contaminated samples prior to chromatographic analysis.



### RIDASCREEN®

ELISA tests for up to 96 determinations

- Highly sensitive
- Specific

### RIDASCREEN®FAST

ELISA for up to 48/96 determinations

- Specific
- Fast and reliable



### RIDA®QUICK

Lateral flow assay

- Easy and quantitative on-site testing
- Fast and reliable

Innovative smartphone-based evaluation of all quantitative tests with RIDA®SMART APP is available



### PREP®, EASI-EXTRACT®, RIDA®

Immunoaffinity columns

- Single or multi-toxin analysis in conjunction with HPLC, LC-MS/MS or ELISA
- For a wide range of matrices

### PuriTox

Solid phase columns

- Rapid purification prior to HPLC, GC or LC-MS/MS



## Mycotoxins

### Aflatoxins

Product	Description	No. of tests/amount	Art. No.
<b>ELISA microtiter plates</b>			
RIDASCREEN® Aflatoxin M1	Enzyme immunoassay for quantitative determination of aflatoxin M1 in milk and milk powder* Detection limit: 5 ng/L (milk/milk powder), 50 ng/kg (milk powder powder referring to g-weight)	96 determinations Incubation time: 1 hr 15 min	R1121
RIDASCREEN®FAST Aflatoxin M1	Enzyme immunoassay for quantitative determination of aflatoxin M1 in milk and milk powder Detection limit: < 125 ng/L (milk), < 125 ng/kg milk powder (referring to reconstituted milk)	48 determinations Incubation time: 15 min	R5812
RIDASCREEN® Aflatoxin B1 30/15	Enzyme immunoassay for quantitative determination of aflatoxin B1 in cereals and feed Detection limit: 1 µg/kg (cereals), 1.7 µg/kg (soy), 2 µg/kg (dry cat food), 4 µg/kg (feed)	96 determinations Incubation time: 45 min	R1211
RIDASCREEN® Aflatoxin Total	Enzyme immunoassay for quantitative determination of aflatoxin in cereals and feed* Detection limit: 1.75 µg/kg	96 determinations Incubation time: 45 min	R4701
RIDASCREEN®FAST Aflatoxin	Enzyme immunoassay for quantitative determination of aflatoxins in cereals and feed* Detection limit: < 1.7 µg/kg	48 determinations Incubation time: 15 min	R5202
RIDASCREEN®FAST Aflatoxin SC	Enzyme immunoassay for quantitative determination of aflatoxins in cereals and feed Detection limit: 1.5 µg/kg (corn); 5.3 µg/kg (feed)	48 determinations Incubation time: 15 min	R9002
<b>Immunoaffinity columns</b>			
AFLAPREP®	Immunoaffinity columns for sample clean-up prior to the analysis of aflatoxins B1, B2, G1 and G2 using HPLC or LC-MS/MS	10 columns (1 mL format) 50 columns (1 mL format)	RBRDP07 RBRP07
AFLAPREP® M	Immunoaffinity columns for sample clean-up prior to the analysis of aflatoxin M1 using HPLC or LC-MS/MS	10 columns (1 mL format) 25 columns (1 mL format)	RBRDP04 RBRP04
AFLAPREP® M WIDE	Immunoaffinity columns for sample clean-up prior to the analysis of aflatoxin M1 using HPLC or LC-MS/MS	10 columns (3 mL format) 50 columns (3 mL format)	RBRP124 RBRP124B
EASI-EXTRACT® AFLATOXIN	Immunoaffinity columns for sample clean-up prior to the analysis of aflatoxins B1, B2, G1 and G2 using HPLC or LC-MS/MS	10 columns (3 mL format) 50 columns (3 mL format)	RBRP71 RBRP70N
RIDA® Aflatoxin column	Immunoaffinity columns for sample clean-up prior to ELISA	10 columns (1 mL format) 50 columns (1 mL format)	R5001 R5002
<b>Solid phase columns</b>			
PuriTox Aflatoxin	Solid phase column for sample clean-up prior to the analysis of total aflatoxins using HPLC or LC-MS/MS	50 columns (syringe format)	RBRP25
<b>Test strips</b>			
RIDA®QUICK Aflatoxin RQS	Immunochromatographic test for the quantitative determination of aflatoxin in corn in combination with RIDA®SMART APP software Detection limit: < 2 µg/kg	20 strips Incubation time: 3 min	R5208
RIDA®QUICK Aflatoxin RQS ECO	Immunochromatographic test with aqueous extraction for the quantitative determination of aflatoxin in corn in combination with RIDA®SMART APP software Detection limit: < 2 µg/kg	20 strips Incubation time: 5 min	R5209
<b>Test cards</b>			
AFLACARD B1	Qualitative detection of aflatoxin B1 at various screening levels	20 determinations	RBRP27
AFLACARD TOTAL	Qualitative detection of total aflatoxins at various screening levels	20 determinations	RBRP38

\* Further applications on request.



## Mycotoxins

### Ochratoxin A

Product	Description	No. of tests/amount	Art. No.
<b>ELISA microtiter plates</b>			
RIDASCREEN® Ochratoxin A 30/15	Competitive enzyme immunoassay for quantitative determination of ochratoxin A in corn, wheat, barley, rye, rice and feed Detection limit: 0.5 µg/kg (corn/wheat), 0.4 µg/kg (barley), 1.2 µg/kg (rye), 0.8 µg/kg (rice), 1.6 µg/kg (feed)	96 determinations Incubation time: 45 min	R1312
RIDASCREEN®FAST Ochratoxin A	Enzyme immunoassay for quantitative determination of ochratoxin A in cereals and feed Detection limit: 1.3 µg/kg (corn), 1.5 µg/kg (wheat, barley), 2.0 µg/kg (oats) and 2.8 µg/kg (feed)	48 determinations Incubation time: 8 min	R5402
<b>Immunoaffinity columns</b>			
OCHRAPREP®	Immunoaffinity columns for sample clean-up prior to the analysis of ochratoxin A using HPLC or LC-MS/MS	10 columns (3 mL format) 50 columns (3 mL format)	RBRP14 RBRP14B
RIDA® Ochratoxin A column	Immunoaffinity columns for sample clean-up prior to ELISA	10 columns (1 mL format)	R1303
<b>Test cards</b>			
OCHRACARD	Qualitative detection of ochratoxin A at various screening levels	20 determinations + 20 Immunoaffinity columns	RBRP48



### Zearalenone

<b>ELISA microtiter plates</b>			
RIDASCREEN® Zearalenon	Enzyme immunoassay for quantitative determination of zearalenone in cereals, feed, beer, serum and urine* Detection limits: 50 ng/L (serum/urine), 250 ng/L (beer), 1750 ng/kg (cereals/feed)	96 determinations Incubation time: 2 h 30 min	R1401
RIDASCREEN®FAST Zearalenon	Enzyme immunoassay for quantitative determination of zearalenone in cereals and feed Detection limit: 17 - 41 µg/kg	48 determinations Incubation time: 15 min	R5502
RIDASCREEN®FAST Zearalenon SC	Enzyme immunoassay for quantitative determination of zearalenone in cereals Detection limit: 5 µg/kg	48 determinations Incubation time: 15 min	R5505
<b>Immunoaffinity columns</b>			
EASI-EXTRACT® ZEARALENONE	Immunoaffinity columns for sample clean-up prior to the analysis of zearalenone using HPLC or LC-MS/MS	10 columns (3 mL format) 50 columns (3 mL format)	RBRP91 RBRP90
<b>Test strips</b>			
RIDA®QUICK Zearalenon RQS	Immunochromatographic test for the quantitative determination of zearalenone in corn in combination with RIDA®SMART APP software Detection limit: approx. 75 µg/kg (RIDA®QUICK SCAN), 50 µg/kg (RIDA®SMART APP)	20 strips Incubation time: 5 min	R5504



\* Further applications on request.



## Mycotoxins

### DON (Vomitoxin)

Product	Description	No. of tests/amount	Art. No.
<b>ELISA microtiter plates</b>			
RIDASCREEN® DON	Enzyme immunoassay for quantitative determination of deoxynivalenol in cereals, malt, feed, beer and wort Detection limits: 18.5 µg/kg (cereals/malt/feed) and 3.7 µg/kg (beer/wort)	96 determinations Incubation time: 45 min	R5906
RIDASCREEN®FAST DON AOAC RI 000701	Enzyme immunoassay for quantitative determination of DON in cereals, malt and feed Detection limit: < 0.2 mg/kg	96 determinations 48 determinations Incubation time: 8 min	R5901 R5902
RIDASCREEN®FAST DON SC	Enzyme immunoassay for quantitative determination of DON in cereals, malt and feed Detection limit: 0.074 mg/kg	48 determinations Incubation time: 8 min	R5905
<b>Immunoaffinity columns</b>			
DONPREP®	Immunoaffinity columns for sample clean-up prior to the analysis of deoxynivalenol using HPLC or LC-MS/MS	10 columns (3 mL format) 50 columns (3 mL format)	RBRP50 RBRP50B
<b>Test strips</b>			
RIDA®QUICK DON RQS ECO	Immunochromatographic test for the quantitative determination of DON in grain in combination with RIDA®SMART APP software Detection limit: < 0.15 mg/kg	20 strips Incubation time: 3 min	R5911



### Fumonisin

<b>ELISA microtiter plates</b>			
RIDASCREEN® Fumonisin	Enzyme immunoassay for quantitative analysis of fumonisins in corn and corn products Detection limit: 25 µg/kg	96 determinations Incubation time: 45 min	R3401
RIDASCREEN®FAST Fumonisin	Enzyme immunoassay for quantitative determination of fumonisins in cereals and feed Detection limit: 0.222 mg/kg	48 determinations Incubation time: 15 min	R5602
<b>Immunoaffinity columns</b>			
FUMONIPREP®	Immunoaffinity columns for sample clean-up prior to the analysis of fumonisins B1, B2 and B3 using HPLC or LC-MS/MS	10 columns (3 mL format) 50 columns (3 mL format)	RBRDP31 RBRP31B
<b>Test strips</b>			
RIDA®QUICK Fumonisin RQS ECO	Immunochromatographic test for the quantitative determination of fumonisin in corn in combination with RIDA®SMART APP software Detection limit: 0.3 mg/kg	20 strips Incubation time: 5 min	R5606





## Mycotoxins

### T-2 Toxin

Product	Description	No. of tests/amount	Art. No.
<b>ELISA microtiter plates</b>			
RIDASCREEN® T-2 Toxin	Enzyme immunoassay for quantitative determination of T-2 toxin in cereals and feed Measuring range: 3.5 - 56 µg/kg Detection limit: approx. 7 µg/kg (barley, rye, corn, wheat), approx. 11 µg/kg (oats) Measuring range: 35 - 560 µg/kg Detection limit: approx. 30 µg/kg (corn, wheat, oats)	96 determinations Incubation time: 1 h 30 min	R3801
RIDASCREEN®FAST T-2 Toxin	Enzyme immunoassay for quantitative determination of T-2 toxin in cereals and feed Detection limit: < 20 µg/kg	48 determinations Incubation time: 15 min	R5302



### T-2/HT-2 Toxin

<b>ELISA microtiter plates</b>			
RIDASCREEN® T-2/HT-2 Toxin	Enzyme immunoassay for quantitative determination of T-2/HT-2 toxin in oats, corn, barley and wheat Detection limit: 16 µg/kg (oats), 12 µg/kg (corn), 21 µg/kg (wheat), 33 µg/kg (barley)	96 determinations Incubation time: 45 min	R3805
<b>Immunoaffinity columns</b>			
EASI-EXTRACT® T-2 & HT-2	Immunoaffinity columns for sample clean-up prior to the analysis of T-2 and HT-2 using HPLC or LC-MS/MS	10 columns (3 mL format) 50 columns (3 mL format)	RBRP43 RBRP43B
<b>Test strips</b>			
RIDA®QUICK T-2/HT-2 RQS ECO	Immunochromatographic test for or quantitative determination of T-2/HT-2 toxin in oats, corn, and wheat in combination with RIDA®SMART APP software. Detection limit: 50 µg/kg	20 strips Incubation time: 5 min	R5304



### Citrinin

<b>ELISA microtiter plates</b>			
RIDASCREEN®FAST Citrinin	Enzyme immunoassay for quantitative determination of citrinin in cereals and feed Detection limit: 15 µg/kg	48 determinations Incubation time: 25 min	R6302
<b>Immunoaffinity columns</b>			
EASI-EXTRACT® CITRININ	Immunoaffinity columns for sample clean-up prior to the analysis of citrinin using HPLC or LC-MS/MS	10 columns (3 mL format) 25 columns (3 mL format)	RBRDP126 RBRP126





## Mycotoxins

### Multitoxin

Product	Description	No. of tests/amount	Art. No.
<b>Immunoaffinity columns</b>			
DZT MS-PREP®	Immunoaffinity columns for sample clean-up prior to the analysis of deoxynivalenol, zearalenone, T-2 and HT-2 using LC-MS/MS	10 columns (1 mL format) 50 columns (1 mL format)	RBRP73 RBRP73B
AFLAOCHRA PREP®	Immunoaffinity columns for sample clean-up prior to the analysis of total aflatoxins and ochratoxin A using HPLC or LC-MS/MS	10 columns (1 mL format) 50 columns (1 mL format)	RBRP89 RBRP89B
AOF MS-PREP®	Immunoaffinity columns for sample clean-up prior to the analysis of total aflatoxins, ochratoxin A and fumonisin using LC-MS/MS	10 columns (3 mL format) 50 columns (3 mL format)	RBRP115 RBRP115B
AO ZON PREP®	Immunoaffinity columns for sample clean-up prior to the analysis of total aflatoxins, ochratoxin A and zearalenone using HPLC or LC-MS/MS	10 columns (3 mL format) 50 columns (3 mL format)	RBRP112 RBRP112B
11+Myco MS-PREP®	Immunoaffinity columns for the sample clean-up prior to the analysis of total aflatoxins, deoxynivalenol, fumonisin, ochratoxin A, T-2, HT-2 and zearalenone using LC-MS/MS	10 columns 3 mL (format) 50 columns 3 mL (format)	RBRP128 RBRP128B
<b>Solid phase columns</b>			
PuriTox AflaZON	Solid phase column for sample clean-up prior to the analysis of total aflatoxins and zearalenone using HPLC or LC-MS/MS	25 columns (syringe format)	TC-M160
PuriTox Total Myco-MS	Solid phase column for sample clean-up prior to the analysis of total aflatoxins, ochratoxin A, DON, 3-acetyl DON, 15-acetyl DON, ZON, T-2, HT-2, FB1, FB2 and FB3 using LC-MS/MS	25 columns (syringe format)	TC-MT3000



### Trichothecene

<b>Solid phase columns</b>			
PuriTox Trichothecene	Solid phase column for clean-up prior to the analysis of trichothecenes using GC or LC-MS/MS	25 columns (syringe format)	TC-T220



### Patulin

<b>Enzyme</b>			
Pectinase	An enzyme for the clarification of cloudy apple juice and apple purée prior to patulin analysis	100 determinations	RBRP129
<b>Molecularly imprinted columns</b>			
EASIMIP™ PATULIN	Molecularly imprinted columns for sample clean-up prior to the analysis of patulin using HPLC or LC-MS/MS	10 columns (3 mL format) 50 columns (3 mL format)	RBRP250 RBRP250B



### Sterigmatocystin

<b>Immunoaffinity columns</b>			
EASI-EXTRACT® STERIGMATOCYSTIN	Immunoaffinity columns for sample clean-up prior to the analysis of sterigmatocystin using HPLC or LC-MS/MS	10 columns (3 mL format) 50 columns (3 mL format)	RBRP125 RBRP125B







## Mycotoxins

	RIDASCREEN®	RIDA® QUICK	Rhône	RIDA® EASI-EXTRACT® PREP® IMMUNOPREP®	PuriTox EASIMIP®	Rhône TRILOGY®	TRILOGY®
	ELISA	Lateral Flow	Test cards	Immunoaffinity columns	Clean-up columns	Standards	Reference material
<b>Mycotoxins</b>							
Aflatoxins	•	•	•	•	•	•	•
• Total	•		•			•	
• B1	•					•	
• M1	•			•		•	
Citrinin	•			•		•	
DON	•	•		•	•	•	•
Fumonisin	•	•		•	•	•	•
Multi Toxin				•	•	•	•
Ochratoxin A	•		•	•	•	•	•
Patulin					•	•	
Sterigmatocystin				•			
T-2 Toxin	•			•	•	•	•
T-2 & HT-2 Toxin	•	•		•	•	•	•
Trichothecenes					•	•	•
Zearalenone	•	•		•	•	•	•



# Automated online analysis of mycotoxins in food and feed

**IMMUNOPREP® ONLINE immunoaffinity cartridges are used together with the RIDA®CREST or RIDA®CREST ICE handling system to combine automated online sample preparation with quantitative analysis of the mycotoxin of interest.**

The immunoaffinity cartridge contains a monoclonal antibody that is specific for the mycotoxin, coupled to a hydrophilic polymer that can withstand high pressure. The RIDA®CREST or RIDA®CREST ICE system enables the use of the IMMUNOPREP® ONLINE cartridges to be incorporated directly with HPLC, UHPLC or LC-MS/MS systems.

The IMMUNOPREP® ONLINE cartridge offers highly specific, sensitive, rapid and automated analysis. The sample application, washing and elution is performed online for up to 15 injections before the cartridge is automatically removed and replaced with a new one. This level of reuse has been found to offer optimum cartridge performance and removes the chance of interference or carryover.

Following extraction of the toxin from the sample with solvent, the extract is filtered, diluted and transferred to an autosampler vial. The diluted extract is injected onto the immunoaffinity cartridge and any toxin present in the sample is retained by antibody in the cartridge. Unbound matrix material is then automatically removed by washing the cartridge and the resulting

wash goes to waste. Subsequently the toxins are released from the antibody following online elution with the mobile phase and the complete elution fraction from the cartridge is quantitatively analysed for the mycotoxin of interest.

## IMMUNOPREP® ONLINE

- Improved quality assurance
- Improved traceability and efficiency
- Reusable cartridges
- Increased sample throughput
- Potential cost savings
- New platform technology:  
RIDA®CREST or RIDA®CREST ICE





## Mycotoxins

### Automated online analysis

Product	Description	No. of tests/amount	Art. No.
<b>Aflatoxins</b>			
<b>Online immunoaffinity cartridges</b>			
IMMUNOPREP® ONLINE AFLATOXIN	Online immunoaffinity cartridges used in conjunction with the RIDA®CREST handling system for the automated clean-up and analysis of aflatoxins B1, B2, G1 and G2 with HPLC	48 cartridges 96 cartridges	RBRP900/48 RBRP900
IMMUNOPREP® ONLINE AFLATOXIN M1	Online immunoaffinity cartridges used in conjunction with the RIDA®CREST handling system for the automated clean-up and analysis of aflatoxins M1 with HPLC	48 cartridges	RBRP904/48
<b>Ochratoxin A</b>			
<b>Online immunoaffinity cartridges</b>			
IMMUNOPREP® ONLINE OCHRATOXIN	Online immunoaffinity cartridges used in conjunction with the RIDA®CREST handling system for the automated clean-up and analysis of ochratoxin A with HPLC	48 cartridges 96 cartridges	RBRP901/48 RBRP901
<b>DON (Vomitoxin)</b>			
<b>Online immunoaffinity cartridges</b>			
IMMUNOPREP® ONLINE DEOXYNIVALENOL	Online immunoaffinity cartridges used in conjunction with the RIDA®CREST handling system for the automated clean-up and analysis of deoxynivalenol with HPLC	48 cartridges	RBRP902/48
<b>Zearalenone</b>			
<b>Online immunoaffinity cartridges</b>			
IMMUNOPREP® ONLINE ZEARELENONE	Online immunoaffinity cartridges used in conjunction with the RIDA®CREST handling system for the automated clean-up and analysis of zearalenone with HPLC	48 cartridges	RBRP903/48
<b>Fumonisin</b>			
<b>Online immunoaffinity cartridges</b>			
IMMUNOPREP® ONLINE FUMONISIN	Online immunoaffinity cartridges used in conjunction with the RIDA®CREST handling system for the automated clean-up and analysis of fumonisins with HPLC	48 cartridges	RBRP905/48



# Trilogy<sup>®</sup> – naturally contaminated materials and mycotoxin standards

**Trilogy<sup>®</sup> Analytical Laboratory is one of the few producers of certified, naturally contaminated reference materials and certified mycotoxin standards. Additionally, naturally contaminated quality control materials and analytical standards for daily quality assurance are available.**

Trilogy<sup>®</sup> is a full service ISO 17025 accredited laboratory and accredited as a reference material producer according to ISO 17034. In cooperation with Trilogy<sup>®</sup>, we offer naturally contaminated certified reference materials and certified mycotoxin standards with metrological traceability. The fields of application of these highly characterized products range from method validation in ISO 17025 accredited labs to instrument calibration. Certified reference materials are available in 100 g packs of selected matrices. Both single and multitoxin options are available. Certified standard solutions contain one mycotoxin each, dissolved in organic solvents.

## **Trilogy<sup>®</sup> Quality Control Materials**

These are naturally contaminated homogeneous products that contain a specific concentration of one or more mycotoxins. These materials have various applications including daily quality assurance, technician training, troubleshooting, proficiency testing and quality documentation. Trilogy<sup>®</sup> quality control materials are available containing the major mycotoxins in various matrices and levels of contamination: Aflatoxin,

Ochratoxin, Zearalenone, Deoxynivalenol and Fumonisin contaminated materials are available, as well as multi-toxin QC materials. Commodities include corn and corn by-products, wheat, barley and malted barley, oats as well as complex products such as animal feed, pet food and spices. Samples are available in 100 g re-sealable foil packs.

## **Analytical Standards**

Trilogy<sup>®</sup> also provides over 30 analytical standards for a wide range of mycotoxins, in solvents and in dry form. The Trilogy<sup>®</sup> analytical standards can be used for spiking experiments in order to check laboratory performance or for the analysis of mycotoxins by HPLC, GC or LC-MS/MS. Trilogy<sup>®</sup> dried standards are very easy to use. A simple reconstitution step reduces the need to handle hazardous mycotoxin powders. The liquid standards are ready to use and contain mycotoxins in dissolved specified organic solvents. They are both intended for use by customers who do not have a spectrophotometer or for those who want to ensure accurate HPLC/GC/LC-MS/MS determination of mycotoxins with minimal preparation and effort.



## Certified Trilogy® mycotoxin products (according to ISO 17034)

### Certified mycotoxin standards

- Ready-to-use liquids
- Single toxin solutions available
- Metrological traceability

### Certified reference materials

- Naturally contaminated
- Single and multitoxin options available
- Metrological traceability



## Trilogy® quality control products for daily use

### Quality control materials

- Naturally contaminated
- Single and multitoxin products available
- Cereals, corn, rice, and more
- Complex matrices like feed

### Analytical standards

- Dried standard substances
- Ready-to-use standards, liquid
- Single and multitoxin options available



## Mycotoxins

### Certified Trilogy® Reference Materials for mycotoxin analysis

Product	Description	No. of tests/amount	Art. No.
<b>Certified Reference Material</b>	<b>Food or feed product</b>		
Certified Trilogy® Reference Material Aflatoxin	Commodities and contamination levels available upon request	100 g	CTRM-A100
Certified Trilogy® Reference Material DON	Commodities and contamination levels available upon request	100 g	CTRM-D100
Certified Trilogy® Reference Material Fumonisin	Commodities and contamination levels available upon request	100 g	CTRM-F100
Certified Trilogy® Reference Material Ochratoxin	Commodities and contamination levels available upon request	100 g	CTRM-O100
Certified Trilogy® Reference Material Zearalenone	Commodities and contamination levels available upon request	100 g	CTRM-Z100
Certified Trilogy® Reference Material Multitoxin	Commodities, mycotoxins and contamination levels available upon request	100 g	CTRM-MT100

### Certified Trilogy® Liquid Standards

Certified Standards	Liquid		
Certified Trilogy® Liquid Standard Aflatoxin B1	10 µg/mL aflatoxin B1 in acetonitrile	5 mL	CTSL-131-5
Certified Trilogy® Liquid Standard Aflatoxin B2	10 µg/mL aflatoxin B2 in acetonitrile	5 mL	CTSL-1012-5
Certified Trilogy® Liquid Standard Aflatoxin G1	10 µg/mL aflatoxin G1 in acetonitrile	5 mL	CTSL-1013-5
Certified Trilogy® Liquid Standard Aflatoxin G2	10 µg/mL aflatoxin G2 in acetonitrile	5 mL	CTSL-1014-5
Certified Trilogy® Liquid Standard Deoxynivalenol	25 µg/mL deoxynivalenol in methanol	5 mL	CTSL-383-5
Certified Trilogy® Liquid Standard Zearalenone	10 µg/mL zearalenone in methanol	5 mL	CTSL-422-5
Certified Trilogy® Liquid Standard Ochratoxin A	5 µg/mL ochratoxin A in methanol	5 mL	CTSL-520-5



Article numbers for Trilogy® products may change during the year. For further information please visit [food.r-biopharm.com](http://food.r-biopharm.com).



## Mycotoxins

### Trilogy® Quality Control Material for mycotoxin analysis

Product	Description	No. of tests/amount	Art. No.
<b>QC Material</b>	<b>Food or feed product</b>		
Trilogy® QC Material Aflatoxin	Commodities and contamination levels available upon request	100 g	TQC-A100
Trilogy® QC Material Deoxynivalenol (DON)	Commodities and contamination levels available upon request	100 g	TQC-D100
Trilogy® QC Material Fumonisin	Commodities and contamination levels available upon request	100 g	TQC-F100
Trilogy® QC Material Ochratoxin	Commodities and contamination levels available upon request	100 g	TQC-O100
Trilogy® QC Material Zearalenone	Commodities and contamination levels available upon request	100 g	TQC-Z100
Trilogy® QC Material Multitoxin	Commodities, mycotoxins and contamination levels available upon request	100 g	TQC-MT100
Trilogy® QC Material Complex Commodities	Commodities, mycotoxins and contamination levels available upon request	100 g	TQC-CC100

### Analytical Mycotoxin Standards

<b>Aflatoxins</b>	<b>Dried</b>		
Trilogy® Dried Standard Aflatoxins B1, B2, G1, G2	Aflatoxins B1, B2, G1, G2 (4:1:4:1) (2/0.5/2/0.5 µg/mL)	5 µg/mL in 10 mL after reconstitution	TS-108-10
Trilogy® Dried Standard Aflatoxin B1	Aflatoxin B1	25 µg/mL in 10 mL after reconstitution	TS-104-10
Trilogy® Dried Standard Aflatoxin B2	Aflatoxin B2	25 µg/mL in 10 mL after reconstitution	TS-105-10
Trilogy® Dried Standard Aflatoxin G1	Aflatoxin G1	25 µg/mL in 10 mL after reconstitution	TS-106-10
Trilogy® Dried Standard Aflatoxin G2	Aflatoxin G2	25 µg/mL in 10 mL after reconstitution	TS-107-10
Trilogy® Dried Standard Aflatoxin M1	Aflatoxin M1	1 µg/mL in 2 mL after reconstitution	TS-130-2
	<b>Liquid</b>		
Trilogy® Liquid Standard Aflatoxins B1, B2, G1, G2	Aflatoxin B1, B2, G1, G2 (4:1:4:1) 5 µg/mL (2/0.5/2/0.5 µg/mL) in acetonitril	10 mL	TSL-108-10
AFLASTANDARD	Total aflatoxin standard (B1, B2, G1, G2) solution at 1000 ng/mL (250 ng/mL each) in methanol	6 mL 3 mL	RBRP22 RBRP22A
Trilogy® Liquid Standard Aflatoxin B1	Aflatoxin B1 25 µg/mL in acetonitrile	10 mL	TSL-104-10
Trilogy® Liquid Standard Aflatoxin B2	Aflatoxin B2 25 µg/mL in acetonitrile	10 mL	TSL-105-10
Trilogy® Liquid Standard Aflatoxin G1	Aflatoxin G1 25 µg/mL in acetonitrile	10 mL	TSL-106-10
Trilogy® Liquid Standard Aflatoxin G2	Aflatoxin G2 25 µg/mL in acetonitrile	10 mL	TSL-107-10
Trilogy® Liquid Standard Aflatoxin M1	Aflatoxin M1 0.5 µg/mL in acetonitrile	2 mL	TSL-143-2
M1 STANDARD	Aflatoxin M1 standard solution at a concentration of 1000 ng/mL in acetonitrile	6 mL	RBRP42



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## Mycotoxins

### Analytical Mycotoxin Standards

Product	Description	No. of tests/amount	Art. No.
<b>Ochratoxin A</b>			
<b>Dried</b>			
Trilogy® Dried Standard Ochratoxin A	Ochratoxin A	1 µg/mL in 5 mL after reconstitution	TS-503-5
<b>Liquid</b>			
Trilogy® Liquid Standard Ochratoxin A	Ochratoxin A 10 µg/mL in methanol	5 mL	TSL-504-5
OCHRASTANDARD	Ochratoxin A standard solution at a concentration of 1000 ng/mL in methanol	6 mL 3 mL	RBRP11 RBRP11A
<b>Zearalenone</b>			
<b>Dried</b>			
Trilogy® Dried Standard Zearalenone	Zearalenone	25 µg/mL in 10 mL after reconstitution	TS-401-10
<b>Liquid</b>			
Trilogy® Liquid Standard Zearalenone	Zearalenone 25 µg/mL in methanol	10 mL	TSL-401-10
ZEASTANDARD	Zearalenone standard solution at a concentration of 1000 ng/mL in acetonitrile	3 mL 6 mL	RBRP44A RBRP44
<b>DAS</b>			
<b>Dried</b>			
Trilogy® Dried Standard Diacetoxyscirpenol (DAS)	Diacetoxyscirpenol (DAS)	100 µg/mL in 5 mL after reconstitution	TS-316-5
<b>DON (Vomitoxin)</b>			
<b>Dried</b>			
Trilogy® Dried Standard DON	Deoxynivalenol	50 µg/mL in 10 mL after reconstitution	TS-310-10
Trilogy® Dried Standard Deoxynivalenol (DON)	Deoxynivalenol (DON)	100 µg/mL in 10 mL after reconstitution	TS-317-10
Trilogy® Dried Standard 3-Acetyl Deoxynivalenol	3-acetyl deoxynivalenol	100 µg/mL in 5 mL after reconstitution	TS-342-5
Trilogy® Dried Standard 15-Acetyl Deoxynivalenol	15-acetyl deoxynivalenol	100 µg/mL in 5 mL after reconstitution	TS-343-5
<b>Liquid</b>			
Trilogy® Liquid Standard Deoxynivalenol (DON)	Deoxynivalenol (DON) 100 µg/mL in methanol	10 mL	TSL-317-10
<b>Fusarenon X</b>			
<b>Dried</b>			
Trilogy® Dried Standard Fusarenon-X	Fusarenon-X	100 µg/mL in 5 mL after reconstitution	TS-351-5
<b>Fumonisin</b>			
<b>Dried</b>			
Trilogy® Dried Standard Fumonisin B1, B2	Fumonisin B1, Fumonisin B2 (10:3)	100/30 µg/mL in 2 mL after reconstitution	TS-202-2
<b>Liquid</b>			
Trilogy® Liquid Standard Fumonisin B1, B2	Fumonisin B1, Fumonisin B2 (10:3) 100/30 µg/mL in acetonitrile/water (50/50)	2 mL	TSL-202-2
Trilogy® Liquid Standard Fumonisin B1	Fumonisin B1 100 µg/mL in acetonitrile/water (50/50)	2 mL	TSL-204-2
Trilogy® Liquid Standard Fumonisin B2	Fumonisin B2 100 µg/mL in acetonitrile/water (50/50)	2 mL	TSL-205-2



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## Mycotoxins

### Analytical Mycotoxin Standards

Product	Description	No. of tests/amount	Art. No.
<b>Neosolaniol</b>			
<b>Dried</b>			
Trilogy® Dried Standard Neosolaniol	Neosolaniol	100 µg/mL in 5 mL after reconstitution	TS-328-5
<b>Nivalenol</b>			
<b>Dried</b>			
Trilogy® Dried Standard Nivalenol	Nivalenol	100 µg/mL in 5 mL after reconstitution	TS-344-5
<b>T-2/HT-2</b>			
<b>Dried</b>			
Trilogy® Dried Standard T-2 Toxin	T-2 Toxin	100 µg/mL in 5 mL after reconstitution	TS-314-5
Trilogy® Dried Standard HT-2 Toxin	HT-2 Toxin	100 µg/mL in 5 mL after reconstitution	TS-333-5
<b>T-2/HT-2</b>			
<b>Liquid</b>			
Trilogy® Liquid Standard T-2 Toxin	T-2 Toxin 100 µg/mL in acetonitrile	5 mL	TSL-314-5
Trilogy® Liquid Standard HT-2 Toxin	HT-2 Toxin 100 µg/mL in acetonitrile	5 mL	TSL-333-5
<b>Trichothecenes – Multitoxines</b>			
<b>Liquid</b>			
Trilogy® Liquid Standard Type A & B Trichothecenes	Type A & B Trichothecenes (Fusarenon X, Deoxynivalenol, Nivalenol, 3- & 15-Acetyl DON, HT-2 Toxin, Diacetoxyscirpenol, T-2 Toxin, Neosolaniol) 100 µg/mL in acetonitrile	2 mL	TSL-307-2
<b>Dried</b>			
Trilogy® Dried Standard Type A Trichothecenes	Type A Trichothecenes (Diacetoxyscirpenol, HT-2 Toxin, T-2 Toxin, Neosolaniol)	10 µg/mL in 5 mL after reconstitution	TS-353-5
<b>Citrinin</b>			
<b>Dried</b>			
Trilogy® Dried Standard Citrinin	Citrinin	5 µg/mL in 5 mL after reconstitution	TS-904-5
<b>Patulin</b>			
<b>Liquid</b>			
Trilogy® Liquid Standard Patulin	Patulin 25 µg/mL in acetonitrile	5 mL	TSL-601-5

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# Analysis of hormone & anabolic residues in food

**Hormones and anabolics can be used as growth promoters in livestock breeding to enhance average daily weight gain and meat/fat ratio. As a consequence, hormone and anabolic residues can occur in food of animal origin.**

Due to their systemic function, hormonal residues in food bear a potential health risk for the consumer.

Additionally, the entry of hormonally active substances into surface and ground water can have an ecological impact on aquatic ecosystems.

Consequently, most countries have banned the use of hormones and anabolics in livestock breeding completely with exceptions for veterinary purposes.

## **RIDASCREEN®/EuroProxima**

- ELISAs for the most commonly used hormones and anabolics
- Quantitative Screening
- Applications for many matrices
- Evaluation with RIDASOFT® Win.NET Food & Feed





## Hormones & anabolics

Product	Description	No. of tests/amount	Art. No.
<b>β-Agonists</b>			
<b>ELISA microtiter plates</b>			
RIDASCREEN® β-Agonists	Enzyme immunoassay for quantitative analysis of β-agonists in urine (SPE) (150 ng/L), urine (direct) (200 ng/L), serum (900 ng/L), meat (100 ng/kg), liver (130 ng/kg), milk (45 ng/L), feed (1000 ng/kg)	96 determinations Incubation time: 1 hr	R1704
RIDASCREEN® Clenbuterol	Enzyme immunoassay for quantitative analysis of clenbuterol in milk (50 ng/L), meat (100 ng/kg), liver (150 ng/kg), kidney (200 ng/kg), urine (100 ng/L), plasma/serum (250 ng/L), hair (2 µg/kg), eye ball (200 ng/kg), feed (600 µg/kg)	96 determinations Incubation time: 45 min	R1711
RIDA® Sample decolorant	Reagents for the sample preparation of liver and feed for RIDASCREEN® Clenbuterol (Art. No. R1711)	1 Set (600 samples)	R1699
RIDA® β-Agonists & Clenbuterol Spiking Solution	100 ng/ml	1 ml	R1799
Clenbuterol Assay Control (positive)	Freeze-dried calves urine positive for clenbuterol	1 x 5 ml	R1707
Clenbuterol Assay Control (negative)	Freeze-dried calves urine negative for clenbuterol	1 x 2 ml	R1708
RIDASCREEN® Ractopamin	Enzyme immunoassay for quantitative analysis of ractopamin in urine (700 ng/L), meat (200 ng/kg), liver (300 ng/kg) *	96 determinations Incubation time: 1 hr 30 min	R9901
RIDA® Ractopamin Spiking Solution	10 ng/ml	1 ml	R9999
<b>Stilbenes</b>			
<b>ELISA microtiter plates</b>			
EuroProxima Diethylstilbestrol (DES)	Enzyme immunoassay for quantitative analysis of DES in tissue (0.18 µg/kg), urine (0.16 µg/kg)*	96 determinations Incubation time: 1 hr 30 min	5081DES
EuroProxima Diethylstilbestrol (DES) Spiking Solution	10 ng/ml	1 ml	5081DESSP
<b>Sex hormones</b>			
<b>ELISA microtiter plates</b>			
RIDA® 17β-Östradiol Spiking Solution	200 ng/ml	1 ml	R2399
RIDA® Testosteron Spiking Solution	500 ng/ml	1 ml	R2499
<b>Gestagens</b>			
<b>ELISA microtiter plates</b>			
EuroProxima Medroxy Progesteron Acetate	Enzyme immunoassay for quantitative analysis of medroxyprogesteronacetate in bovine kidney fat (0.5 µg/kg)	96 determinations Incubation time: 1 hr 30 min	5131MPA
RIDA® Melengestrolacetat Spiking Solution	100 ng/ml	1 ml	R6599

\* Further applications on request.



## Hormones & anabolics

Product	Description	No. of tests/amount	Art. No.
<b>Anabolic steroids</b>			
<b>ELISA microtiter plates</b>			
EuroProxima Trenbolone	Enzyme immunoassay for quantitative analysis of trenbolone in urine (0.5 µg/L), liver (0.6 µg/kg), tissue (0.4 µg/kg)	96 determinations Incubation time: 1 hr 30 min	5081TRENBO
EuroProxima Trenbolone Spiking Solution	50 ng/ml	1 ml	5081TRENBO SP
EuroProxima Methyltestosterone	Enzyme immunoassay for quantitative analysis of methyltestosterone in urine (2 µg/L), tissue (bovine) (0.053 µg/kg) and tissue (fish) (0.22 µg/kg)	96 determinations Incubation time: 1 hr	5081MTES
RIDA® Methyltestosteron Spiking Solution	100 ng/ml	1 ml	R3699
EuroProxima Nortestosterone	Enzyme immunoassay for quantitative analysis of nortestosterone in urine (0.5 µg/L) and milk (0.5 µg/L)	96 determinations Incubation time: 1 hr 30 min	5081NOR
RIDA® Nortestosteron Spiking Solution	1 µg/ml	1 ml	R2899
EuroProxima Ethinylestradiol	Enzyme immunoassay for quantitative analysis of ethinylestradiol in tissue (0.035 µg/kg), muscle (0.02 µg/kg), urine (0.04 µg/L)	96 determinations Incubation time: 2 hr 30 min	5081ESTR
RIDA® Ethinylöstradiol Spiking Solution	20 ng/ml	1 ml	R2599
EuroProxima Progesterone	Enzyme immunoassay for quantitative analysis of progesterone in milk (1 µg/kg) and serum (1 µg/kg)	96 determinations Incubation time: 1 hr 30 min	5081PROG
EuroProxima Progesterone Spiking Solution	100 ng/ml	1 ml	5081PROGSP1
EuroProxima Stanozolol	Enzyme immunoassay for quantitative analysis of stanozolol in urine (1 µg/L) and faeces (1 µg/kg)	96 determinations Incubation time: 45 min	5081STAN
<b>Corticosteroide</b>			
<b>ELISA microtiter plates</b>			
EuroProxima Corticosteroid	Enzyme immunoassay for quantitative analysis of corticosteroids in milk (0.2 µg/L), urine (3 µg/L), muscle (0.2 µg/kg) and liver (1 µg/kg) and feed (0.6 µg/kg)	96 determinations Incubation time: 1 hr 30 min	5081COR
EuroProxima Triamcinolone	Enzyme immunoassay for quantitative analysis of triamcinolone in urine (0.1 µg/L)	96 determinations Incubation time: 45 min	5081TRIA
<b>Non-steroidal compounds</b>			
<b>ELISA microtiter plates</b>			
EuroProxima Zeranol	Enzyme immunoassay for quantitative analysis of zeranol in urine (0.2 µg/L), tissue (0.7 µg/kg) and liver (1.3 µg/kg)	96 determinations Incubation time: 1 hr 30 min	5081ZERAN
EuroProxima Zeranol Spiking Solution	20 ng/ml	1 ml	5081ZERANSP
<b>Accessories</b>			
<b>Solid phase columns</b>			
RIDA® C18 columns	Solid phase extraction columns for use in conjunction with RIDASCREEN® ELISAs	100 columns	R2002

\* Further applications on request.



## Hormones & anabolics

Test system	Matrices								
	Meat	Milk	Serum/ plasma	Urine	Liver	Perirenal fat	Faeces	Feed	Additional matrices
EuroProxima Nortestosterone	•			•					
RIDASCREEN® β-Agonists	•	•	•	•	•			•	
RIDASCREEN® Clenbuterol	•	•	•	•	•			•	Hair, eye, kidney
EuroProxima Corticosteroid	•	•		•	•			•	Muscle
EuroProxima Diethylstilbestrol	•	•		•					
EuroProxima Ethinylöstradiol	•		•	•					
EuroProxima Methyltestosterone	•			•	•				Fish, bovine
EuroProxima Progesterone		•	•						
EuroProxima Medroxy Progesteron Acetate	•					•			Bovine, kidney fat
RIDASCREEN® Ractopamin	•			•	•				
EuroProxima Trenbolone	•			•	•				
EuroProxima Triamcinolone				•					
EuroProxima Stanozolol				•			•		
EuroProxima Zeranol	•			•	•				



# Analysis of antibiotic residues

**In addition to their function as veterinary drugs, antibiotics can be used as antimicrobial growth promoters in livestock breeding. As a consequence of incorrect or illegal use, antibiotic drug residues in food of animal origin can remain.**

Because of the potentially toxic, carcinogenic and allergic properties of antibiotic residues, contaminated food is a direct health risk for consumers.

Additionally, the inappropriate use of antibiotics in animal husbandry and food production can promote multi-resistant pathogens, which pose an increasing risk for public health.

For these reasons, most countries have established Maximum Residue Limits (MRLs) and monitoring programs for antibiotic residues in food. Non-compliance with these legislations e.g. in export can lead to severe penalties.

For food industries, antibiotic residues additionally bear technological and economic risks, as they can inhibit production processes involving microorganisms and thus lead to production losses.



### RIDASCREEN®/EuroProxima

ELISAs for the screening of antibiotic residues

- Quantitative results of single antibiotics or antibiotic groups
- Detect the most commonly used antibiotics
- Applications for a wide range of matrices
- Evaluation with RIDASOFT® Win.NET Food & Feed



### Premi®Test

Microbial inhibition test for qualitative screening

- Detects a broad spectrum of antibiotics
- Easy to handle, no sophisticated equipment needed
- Faster than plate tests
- Sensitive (in conformity with EU-MRLs)
- Validated (AOAC-RI PTM<sup>SM</sup> and AFNOR NF VALIDATION)



## Antibiotics

Product	Description	No. of tests/amount	Art. No.
<b>Fenicols</b>			
<b>ELISA microtiter plates</b>			
RIDASCREEN® Chloramphenicol	Enzyme immunoassay for quantitative analysis of chloramphenicol in milk (24 ng/L), milk powder (reconstitution) (240 ng/kg), milk powder (extraction) (24 ng/kg), yoghurt/kefir/buttermilk/cream (12 ng/kg), curd/sour cream (15 ng/kg), butter (61 ng/kg), cheese (16 ng/kg), honey (25 ng/kg), royal jelly (23 ng/kg), meat (beef, pork, poultry) (5 ng/kg), fish/shrimp (8 ng/kg), shrimp (5 in 1 nitrofurantoin sample prep.) (34 ng/kg), egg (15 ng/kg), urine direct (CAP-glucuronide) (138 ng/L), urine hydrolyzed (chloramphenicol) (196 ng/L), plasma/serum (18 ng/L), feed (107 ng/kg)	96 determinations Incubation time: 45 min	R1511
RIDA® Chloramphenicol Spiking Solution	50 ng/ml	1 ml	R1599
EuroProxima Florfenicol	Enzyme immunoassay for quantitative analysis of florfenicol in tissue (0.2 µg/kg), fish/shrimps (0.2 µg/kg) and egg (0.1 µg/kg)	96 determinations Incubation time: 45 min	5091FLORF
EuroProxima Florfenicol-amine	Enzyme immunoassay for quantitative analysis of florfenicol-amine in tissue (5.1 µg/kg), fish (8.3 µg/kg), kidney (11.6 µg/kg), liver (7.4 µg/kg), milk (2.1 µg/L) and egg (5 µg/kg)	96 determinations Incubation time: 1 h 30 min	5091FLOA
<b>Tetracyclin</b>			
<b>ELISA microtiter plates</b>			
RIDASCREEN® Tetracyclin	Enzyme immunoassay for quantitative analysis of tetracyclin in milk (0.9 µg/L), milk powder (5 µg/kg), cheese (2.3 µg/kg), butter (2.6 µg/kg), dairy products (1 µg/kg), honey (3.7 µg/kg), meat (1.5 µg/kg), sausage (4.6 µg/kg), fish (1.5 µg/kg), shrimp (1.2 µg/kg), whole egg (2.8 µg/kg)	96 determinations Incubation time: 1 h 30 min	R3505
RIDA® Tetracyclin Spiking Solution	Lyophilisate, produces 10 ml of a 100 ng/ml stock solution	1 lyophilisate, 1 reconstitution buffer	R3599
EuroProxima Oxytetracycline	Enzyme immunoassay for quantitative analysis of oxytetracycline in honey (5 µg/kg) and shrimp/fish (2 µg/kg)	96 determinations Incubation time: 1 h 30 min	5091OTC
<b>β-Lactame</b>			
<b>ELISA microtiter plates</b>			
EuroProxima Penicillin	Enzyme immunoassay for quantitative analysis of penicillins in milk (0.08 µg/L), milk powder (1.52 µg/kg), cheese/butter/yoghurt/curd/cream/kefir/whey (0.4 - 2.5 µg/L), infant formula (0.5 µg/L), chicken meat (5 µg/kg), salmon (2.03 µg/kg), shrimp (5.00 µg/kg) and turkey meat (0.9 µg/kg)	96 determinations Incubation time: 1 h 30 min	5091PEN
<b>Nitrofurans</b>			
<b>ELISA microtiter plates</b>			
RIDASCREEN® Nitrofurantoin (AOZ)	Enzyme immunoassay for quantitative analysis of AOZ in shrimp, fish, milk (50 ng/kg), meat, liver, whole egg (100 ng/kg) *	96 determinations Incubation time: 1 h 15 min	R3703
RIDA® Nitrofurantoin (AOZ) Spiking Solution	20 ng/ml	1 ml	R3798
RIDASCREEN® Nitrofurantoin (AMOZ)	Enzyme immunoassay for quantitative analysis of AMOZ in shrimp (30 ng/kg), fish (40 ng/kg), meat (bovine) (40 ng/kg), meat (porcine) (65 ng/kg), poultry (chicken, turkey) (40 ng/kg) *	96 determinations Incubation time: 45 min	R3722
RIDA® Nitrofurantoin (AMOZ) Spiking Solution	20 ng/ml	1 ml	R3799
RIDASCREEN® Nitrofurantoin (AHD)	Enzyme immunoassay for quantitative analysis of AHD in shrimp (200 ng/kg), fish (76 ng/kg) *	96 determinations Incubation time: 1 h 15 min	R3713
RIDA® Nitrofurantoin (AHD) Spiking Solution	20 ng/ml	1 ml	R3796
RIDASCREEN® Nitrofurantoin (SEM)	Enzyme immunoassay for quantitative analysis of SEM shrimp (300 ng/kg), meat (beef and pork) (300 ng/kg), fish (360 ng/kg), meat (chicken) (400 ng/kg) *	96 determinations Incubation time: 1 h 15 min	R3715
RIDA® Nitrofurantoin (SEM) Spiking Solution	20 ng/ml	1 ml	R3797

\* Further applications on request.





## Antibiotics

Product	Description	No. of tests/amount	Art. No.
<b>Aminoglycosides</b>			
RIDASCREEN® Streptomycin	Enzyme immunoassay for quantitative analysis of streptomycin in milk (5 µg/L), milk (reconstituted from milk powder) (3 µg/L), honey (2 µg/kg), beef/pork (22 µg/kg), poultry (28 µg/kg), liver (23 µg/kg), kidney (18 µg/kg), shrimp (20 µg/kg), apple juice (4 µg/L)	96 determinations Incubation time: 45 min	R3104
RIDA® Streptomycin Spiking Solution	10 µg/ml	1 ml	R3199
EuroProxima Gentamicin	Enzyme immunoassay for quantitative analysis of gentamicin in milk (2 µg/kg), tissue (10 µg/kg), honey (2.5 µg/kg), serum (2 µg/L), feed (10 µg/kg), egg (1 µg/kg), urine (4 µg/kg)	96 determinations Incubation time: 1 h 30 min	5111GEN
EuroProxima Neomycin	Enzyme immunoassay for quantitative analysis of neomycin in milk/milk powder (6.25 µg/kg), tissue (31.25 µg/kg), honey (15.63 µg/kg), serum/plasma (6.25 µg/L), urine (8.42 µg/kg)	96 determinations Incubation time: 1 h 30 min	5111NEO
<b>Macrolides</b>			
EuroProxima Erythromycin	Enzyme immunoassay for quantitative analysis of erythromycin in milk (4 µg/kg), honey (10 µg/kg), egg (10 µg/kg), shrimp/fish (10 µg/kg), liver (10 µg/kg) and urine (4 µg/kg)	96 determinations Incubation time: 1 h 30 min	5151ERY
EuroProxima Tylosin	Enzyme immunoassay for quantitative analysis of tylosin in milk (2.5 µg/kg), honey (2.5 µg/kg), egg (2.5 µg/kg), feed (2.5 µg/kg), tissue (2.5 µg/kg), serum (2.5 µg/kg), urine (2.5 µg/kg)	96 determinations Incubation time: 1 h 15 min	5151TYL
<b>Lincomycine</b>			
EuroProxima Lincomycin	Enzyme immunoassay for quantitative analysis of lincomycin in milk (45 µg/kg), tissue (41 µg/kg), liver (100 µg/kg), honey (7 µg/kg), egg (20 µg/kg)	96 determinations Incubation time: 1 h 30 min	5151LIN
<b>Virginiamycin</b>			
EuroProxima Virginiamycin	Enzyme immunoassay for quantitative analysis of virginiamycin in urine (40 µg/kg), feed (40 µg/kg) and milk (8 µg/kg)	96 determinations Incubation time: 1 h 30 min	5151VIG
<b>Sulfonamides</b>			
RIDASCREEN® Sulfamethazin	Enzyme immunoassay for quantitative analysis of sulfamethazin in milk (4 µg/L), meat (bovine/porcine) (5 µg/kg), meat (poultry) (10 µg/kg), honey (10 µg/kg), liver (6 µg/kg), kidney (10 µg/kg), fish (7 µg/kg), shrimp (15 µg/kg), egg (16 µg/kg)*	96 determinations Incubation time: 45 min	R3011
RIDA® Sulfamethazin Spiking Solution	10 µg/ml	1 ml	R3098
RIDASCREEN® Sulfonamide	Enzyme immunoassay for quantitative analysis of sulfonamides in meat (poultry), egg (1.5 µg/kg), meat (pork), fish, shrimp, honey (2 µg/kg), milk (3.5 µg/L)	96 determinations Incubation time: 1 h 15 min	R3004
RIDA® Sulfonamide/Sulfamethoxypyridazin Spiking Solution	0.1 µg/ml	1 ml	R3099

\* Further applications on request.



## Antibiotics

Product	Description	No. of tests/amount	Art. No.
<b>Quinolones/Fluoroquinolones</b> ELISA microtiter plates			
RIDASCREEN® Chinolone/Quinolones	Enzyme immunoassay for quantitative analysis of quinolones in shrimp (6 µg/kg), fish (8 µg/kg), egg (9 µg/kg), meat (10 µg/kg) *	96 determinations Incubation time: 1 h 15 min	R3113
RIDASCREEN® Enro-/Ciprofloxacin	Enzyme immunoassay for the quantitative determination of enrofloxacin und ciprofloxacin in fresh milk, UHT milk, raw milk, milk powder (0.6 µg/l)	96 determinations Incubation time: 45 min	R3111
RIDA® Ciprofloxacin Spiking Solution	1 µg/ml	1 mL	R3198
EuroProxima Flumequine	Enzyme immunoassay for quantitative analysis of flumequine in meat (< 0.1 µg/kg), shrimp (< 0.1 µg/kg), tissue (< 10 ng/g) egg (3.5 µg/kg), honey (< 10 µg/kg), milk (13 ng/g), urine (5.5 ng/ml), serum (1 ng/ml), feed (10 ng/ml), water (3 ng/ml)	96 determinations Incubation time: 1 h 30 min	5101FLUM
EuroProxima Fluoroquinolones	Enzyme immunoassay for quantitative analysis of fluoroquinolones in milk (3 µg/L), egg (6 µg/kg), tissue and whole egg (0.5 µg/kg), honey (2 µg/kg), water (2 µg/L), serum (2.5 µg/L) and urine (7 µg/L)	96 determinations Incubation time: 1 h 30 min	5101FLUQG
EuroProxima Fluoroquinolones II	Enzyme immunoassay for quantitative analysis of fluoroquinolones in shrimp (4 µg/kg), porcine muscle (6 µg/kg), tissue (0.6 µg/kg), honey (0.1 µg/kg), serum (3 µg/L), urine (1.5 µg/L) and feed (16 µg/kg)	96 determinations Incubation time: 45 min	5101FLUQII
EuroProxima Oxolinic Acid	Enzyme immunoassay for quantitative analysis of oxolinic acid in fish (2 µg/kg) and shrimp (2 µg/kg)	96 determinations Incubation time: 1 h	5101OXO
<b>Nitromidazoles</b> ELISA microtiter plates			
EuroProxima Dimetridazole	Enzyme immunoassay for quantitative analysis of dimetridazole in shrimps (0.8 µg/kg), tissue (0.3 µg/kg), milk (0.3 µg/L), egg (0.3 µg/kg) and serum (0.3 µg/kg)	96 determinations Incubation time: 1 h 30 min	5091DIME
<b>Polypeptides</b> ELISA microtiter plates			
RIDASCREEN® Bacitracin	Enzyme immunoassay for quantitative analysis of bacitracin in milk (11 µg/L), meat (9 µg/kg), eggs (11 µg/kg), feed (82 µg/kg), urine (23 µg/L)	96 determinations Incubation time: 1 h 30 min	R2901
EuroProxima Bacitracin Spiking Solution	1000 ng/ml	1 mL	5151BACSP
<b>Others</b> ELISA microtiter plates			
EuroProxima Colistin	Enzyme immunoassay for quantitative analysis of colistin in milk (4 µg/L), egg (22 µg/kg), chicken (12 µg/kg), pork (8 µg/kg), beef (15 µg/kg), liver 21 (µg/kg), fish (12 µg/kg) and feed 24 (µg/kg)	96 determinations Incubation time: 1 h	5151COL
<b>Premi®Test</b> Test ampoules			
Premi®Test	Microbial inhibition test for the screening of antibiotic residues in food of animal origin such as meat (beef, pork, poultry) Detectable antibiotic groups: β-lactams, cephalosporins, macrolides, tetracyclins, sulphonamides, aminoglycosides, quinolones, polypeptides, fenicolis, others	4 x 25 ampoules 25 ampoules Incubation time: ~ 3 h	R3900 R3925

\* Further applications on request.



## Antibiotics

Test	Matrix													
	Milk	Milk powder	Dairy products*	Meat	Liver	Kidney	Fish	Shrimp	Honey	Egg	Urine	Serum/plasma	Feed	Additional matrices
RIDASCREEN® Bacitracin	•			•						•	•		•	
RIDASCREEN® Chinolone	•			•			•	•	•	•				
RIDASCREEN® Enro-/Ciprofloxacin	•	•												
RIDASCREEN® Chloramphenicol	•	•	•	•			•	•	•	•	•	•	•	
EuroProxima Colistin	•			•	•		•			•			•	
EuroProxima Dimetridazole	•			•				•		•		•		
EuroProxima Erythromycin	•			•	•		•	•	•	•	•			
EuroProxima Florfenicol							•	•		•				
EuroProxima Florfenicol-amine	•			•	•	•	•			•				
EuroProxima Flumequine	•			•				•	•	•	•	•	•	Water
EuroProxima Fluoroquinolones	•			•					•	•	•	•	•	
EuroProxima Fluoroquinolones II				•				•	•		•	•	•	
EuroProxima Gentamicin	•			•					•	•	•	•	•	
EuroProxima Lincomycin	•			•	•				•	•				
EuroProxima Neomycin	•	•		•					•		•	•		
RIDASCREEN® Nitrofurantoin AHD							•	•						
RIDASCREEN® Nitrofurantoin AMOZ				•			•	•						
RIDASCREEN® Nitrofurantoin AOZ	•			•	•		•	•		•				
RIDASCREEN® Nitrofurantoin SEM				•			•	•						
EuroProxima Oxolinic Acid							•	•						
EuroProxima Oxytetracycline							•	•	•					
EuroProxima Penicillin	•	•	•	•			•	•						Baby food
Premi®Test				•										
RIDASCREEN® Sulfamethazolin	•			•	•	•	•	•	•	•				
RIDASCREEN® Sulfonamide	•			•			•	•	•	•				
RIDASCREEN® Streptomycin	•	•		•	•	•		•	•					Apple juice
RIDASCREEN® Tetracyclin	•	•	•	•			•	•	•	•				Sausage
EuroProxima Tylosin	•			•					•	•	•	•	•	
EuroProxima Virginiamycin	•										•		•	

\* Dairy products: butter, cheese, curd, yoghurt, cream, kefir (depending on test).

## Other veterinary drug residues/miscellaneous

Product	Description	No. of tests/amount	Art. No.
<b>Malachite Green</b>			
<b>ELISA microtiter plates</b>			
EuroProxima Malachite Green Total	Enzyme immunoassay for quantitative analysis of malachite green, leucomalachite green, crystal violet and leucocrystal violet in shrimps and fish (0.12 µg/kg)	96 determinations Incubation time: 60 min	5161MGT
<b>Anthelmintics</b>			
<b>ELISA microtiter plates</b>			
EuroProxima Ivermectin	Enzyme immunoassay for quantitative analysis of ivermectin in milk (2.5 µg/L), corned beef (5 µg/kg), liver (8 µg/kg), serum (1 µg/L), urine (1 µg/kg) and tissue (3 µg/kg)	96 determinations Incubation time: 1 h 30 min	5141IVER
EuroProxima Moxidectin	Enzyme immunoassay for quantitative analysis of moxidectin in urine (2 µg/kg)	96 determinations Incubation time: 1 h 30 min	5141MOXI
<b>Tranquilizers</b>			
<b>ELISA microtiter plates</b>			
EuroProxima Azaperone-Azaperol	Enzyme immunoassay for quantitative analysis of azaperone-azaperol in urine (0.2 µg/kg), tissue (3 µg/kg), liver (5 µg/kg) and kidney (10 µg/kg)	96 determinations Incubation time: 1 h 30 min	5201AZA
EuroProxima Carazolol	Enzyme immunoassay for quantitative analysis of carazolol in urine (2.2 µg/L), tissue (0.3 µg/kg) and liver/kidney (3 µg/kg)	96 determinations Incubation time: 1 h 30 min	5201CARA
EuroProxima Promazine, generic	Enzyme immunoassay for quantitative analysis of promazine in urine (1.1 µg/L), tissue (4.3 µg/kg), liver (0.2 µg/kg) and kidney (0.3 µg/kg)	96 determinations Incubation time: 1 h 30 min	5201PROM
<b>Endocrine disruptors</b>			
<b>ELISA microtiter plates</b>			
EuroProxima Bisphenol A	Enzyme immunoassay for quantitative analysis of bisphenol A in milk (0.42 ng/ml) and surface water (0.009 ng/ml)	96 determinations Incubation time: 1 h 30 min	5221BPA

## Marine biotoxins

<b>ELISA microtiter plates</b>			
EuroProxima Domoic Acid	Enzyme immunoassay for quantitative analysis of domoic acid in scallop (60 µg/kg), mussel (60 µg/kg) and oyster (150 µg/kg)	96 determinations Incubation time: 45min	5191DOMO
EuroProxima Okadaic Acid	Enzyme immunoassay for quantitative analysis of okadaic acid in mussel (40 µg/kg) and oyster (40 µg/kg)	96 determinations Incubation time: 45 min	5191OKA
EuroProxima Saxitoxin	Enzyme immunoassay for quantitative analysis of saxitoxin in mussel (10 µg/kg) and oyster (5 µg/kg)	96 determinations Incubation time: 45 min	5191SAXI
EuroProxima Tetrodotoxin	Enzyme immunoassay for quantitative analysis of tetrodotoxin in fish (7 µg/kg) and shellfish (9 µg/kg)	96 determinations Incubation time: 1 h	5191TTX

## Food adulteration

Product	Description	No. of tests/amount	Art. No.
<b>ELISA microtiter plates</b>			
EuroProxima Plus Bovine Rennet Whey	Enzyme immunoassay for quantitative analysis of bovine rennet whey in bovine milk or milk powder	96 determinations Incubation time: 1 h 30 min	5171BRW
EuroProxima Plus Cow's Milk	Enzyme immunoassay for quantitative analysis of cow's liquid milk in goat's/sheep's liquid milk (0.5 %), cow's milk powder in goat's/sheep's milk powder (0.5 %) and cow's colostrum powder in goat's whey powder (0.5 %)	96 determinations Incubation time: 45 min	5171MILK
EuroProxima Plus Cheese Fraud	Enzyme immunoassay for quantitative analysis of bovine milk in cheeses of other species at a minimum level of 1 %	96 determinations Incubation time: 1 h 30 min	5171BKCC
EuroProxima Plus Lactoferrin	Enzyme immunoassay for quantitative analysis of lactoferrin in milk, milk powder and baby/infant milk powder	96 determinations Incubation time: 1 h 30 min	5091LFER
EuroProxima Plus Lactoferrin Fast	Enzyme immunoassay for quantitative analysis of lactoferrin in baby/infant milk powder (103 mg/kg)	96 determinations Incubation time: 45 min	5091LFERF
<b>Test strips</b>			
RIDA®QUICK CIS	Immunochromatographic test for the detection of cow milk (bovine IgG) in milk or cheese of other species; Detection limit: 0.5 % cow's milk in sheep's and goat's milk, 0.5 % cow's milk in sheep's and goat's cheese	25 strips Incubation time: 5 min	R4303
DUROTEST® S	Membrane strips for detection of non-durum wheat adulteration in semolina Detection limit: 3 % non-durum wheat	20 strips (80 determinations)	RBRP10



## Histamine

<b>Enzymatic test microtiter plates</b>			
RIDASCREEN® Histamine (enzymatic) AOAC-RI 031901	Enzymatic test in microtiter plate format for the quantitative determination of histamine in fish, canned fish, fish meal, wine, cheese and milk; for the sample preparation of wine it is recommended to use RIDA® Sample Decolorant (Art. No. R1699) Detection limit: 0.54 - 3.75 mg/kg (ppm) histamine (matrix dependend)	96 determinations Incubation time: 15 min	R1605
<b>Accessories</b>			
RIDA® Sample decolorant	Reagents for the sample extraction of wine for histamine analysis using RIDASCREEN® Histamine (enzymatic)	1 set (200 wine samples)	R1699
<b>ELISA microtiter plates</b>			
RIDASCREEN® Histamine	Competitive ELISA to quantify histamine in food Detection limit: 0.1 - 100 mg/kg histamine (matrix dependend)	96 determinations Incubation time: 1 h 10 min (using MTP-shaker) or 1 h 30 min	R1601





# Allergen analysis of food and surfaces with sensitive test kits

Even small traces of allergenic proteins in food can provoke allergic reactions in sensitive people. Therefore, monitoring of cross-contamination in raw material and production lines as well as correct labeling of food products are an important part of quality control in the food industry.

## Surface and hygiene control

Clean and controlled allergen production conditions are a prerequisite for allergen-free food products. Therefore, swabs within production sites should be carried out regularly with test strips from bioavid or RIDA®QUICK. The RIDA®QUICK Gliadin has received validation according to AOAC-OMA (“Official Methods of Analysis”) for the analysis of corn products and AOAC-PTM (*Performance Tested Methods*<sup>SM</sup>) for surfaces and cleansing waters. No lab equipment is required and results from these rapid tests are available within 5 - 10 minutes.

## Product testing

For food testing, different analytical methods exist: ELISA, LFD and PCR. While ELISA and LFD detect proteins, PCR detects the DNA of allergens. These methods are complementary and can be used for confirmation of screening results. The unique 4Plex Allergen qPCR kits allow the detection of 3 parameters plus internal amplification control in one run. Many of the ELISA kits are next to manually use also suitable for automation.



### RIDASCREEN® ELISA

- Quantitative results using certified calibration material (e.g. NIST; CRM)
- Simple sample preparation (20 min) and test procedure (3 x 10 min)
- Possibility of using automates (ThunderBolt®, Bolt, DYNEX DS2)
- Evaluation with the user-friendly software – RIDASOFT® Win.NET



### RIDA®QUICK/bioavid

- On-site testing (swab test, CIP, food)
- Simple
- No lab equipment required
- Rapid qualitative decision
- Suitable for food after own validation



### SureFood® PCR

- Robust, stable target molecule (DNA) in highly processed food samples
- Highly specific assay with minimum tendency to cross-reactions
- One sample preparation using SureFood® PREP Advanced (Art. No. S1053) for all parameters or with SureFast® Mag PREP Food (Art. No. F1060) in approx. 90 min
- Customized solutions
- Standardized handling and test procedure (1 - 2 h)



## Allergens

### Gliadin/Gluten

Product	Description	No. of tests/amount	Art. No.
<b>ELISA microtiter plates</b>			
RIDASCREEN® Gliadin AOAC-OMA 2012.01 "Final Action" AOAC-RI 120601 AACCI 38-50.01 Codex Alimentarius Method (Type I) ICC	Official R5 Mendez method: sandwich ELISA to quantify prolamines from wheat, rye and barley in e.g. food declared as gluten-free; sample extraction with Cocktail (patented) (Art. No. R7006/R7016) (not contained in the kit); the kit is suitable for automation Detection limit: 0.5 mg/kg gliadin (0.06 - 1.24 matrix dependend) resp. 1.0 mg/kg gluten	96 determinations Incubation time: 1 h 30 min	R7001
RIDASCREEN®FAST Gliadin	R5 sandwich ELISA to quantify prolamines from wheat, rye, barley in e.g. food declared as gluten-free; sample extraction with Art. No. R7006/R7016 or Cocktail ECO (Art. No. R7080) (not contained in the kit); the kit is suitable for automation Detection limit: 0.5 mg/kg gliadin (0.14 - 2.10 matrix and extraction dependend) resp. 1.0 mg/kg gluten	48 determination Incubation time: 30 min	R7002
RIDASCREEN®FAST Gliadin sensitive	R5 sandwich ELISA to quantify prolamines from wheat, rye and barley. For example, in food declared as gluten-free; sample extraction with Art. No. R7006/R7016 or R7080 (not contained in the kit); the kit is suitable for automation Detection limit: 0.2 mg/kg gliadin (0.19 - 2.10 matrix dependend) resp. 0.4 mg/kg gluten	96 determinations Incubation time: 30 min	R7051
RIDASCREEN® Gliadin competitive (2 <sup>nd</sup> generation) AOAC-OMA 2015.05 „Final Action“ AACCI 38-55.01	R5 competitive ELISA to quantify potential toxic peptide sequences of prolamines from wheat, rye and barley in fermented and hydrolyzed food (e.g. beer, starch, starch syrup); sample preparation with an ethanolic solution; the standard material is a hydrolyzate (mixture of wheat, rye and barley); the results can be related to the limit values of the Codex Alimentarius; the kit is suitable for automation Detection limit: 2.3 mg/kg gliadin (1.9 - 2.6 matrix dependend) resp. 4.6 mg/kg gluten	96 determinations Incubation time: 40 min	R7021
RIDASCREEN® Total Gluten AOAC-OMA 2018.15 "First Action"	R5 based sandwich ELISA for quantification of wheat, rye and barley gluten in oat and oat products; sample extraction with R7006 or R7016 (not contained in the kit) Detection limit: 4 mg/kg gluten (matrix dependend)	96 determinations Incubation time: 50 min	R7041
<b>Accessories</b>			
Cocktail (patented)	Developed by Prof. Mendez; officially recommended extraction buffer for all processed e.g. heat treated food samples in conjunction with R7001, R7002, R7003, R7004, R7051, R7041	105 ml	R7006
Cocktail (patented)	Corresponding to R7006 but larger bottle size	1000 ml	R7016
Cocktail ECO	Alternative to the Cocktail (patented); use only after extraction comparison with R7006/R7016: the extraction is faster (35 min) and more environment-friendly; for all processed e.g. heat treated food tested with R7001, R7002, R7003, R7004, R7051	2 x 115 ml	R7080
RIDA® Extraction solution (colorless)	Alternative to the Cocktail (patented); use only after extraction comparison with R7006/R7016: the extraction is faster (35 min); for all processed e.g. heat treated food tested with R7001, R7002, R7003, R7004, R7051; additional application for R4612 available	105 ml	R7098
Set of 3 processed Gliadin Assay Controls	Three contaminated Gliadin assay controls: One below 10 ppm (< 20 ppm limit value for gluten) and two high positive homogenized snack samples; in cooperation with Trilogy® Analytical Laboratories	3 x 1.5 g	R7012







## Allergens

### Gluten

Product	Description	No. of tests/amount	Art. No.
<b>Lateral flow test strips</b>			
RIDA®QUICK Gliadin AOAC-OMA 2015.16 „Final Action“ AACCI 38-60.01 AOAC-RI 101702	The immunochromatographic test is based on the R5 antibody and detects prolamines from wheat, rye and barley; the test strips can be used directly for swabs on surfaces or for analysis of e.g. gluten-free raw materials Detection limit: 1.6 - 3.0 µg gluten/100 cm <sup>2</sup> on surfaces, 4.4 mg/kg gluten in raw materials, 6.3 mg/kg gluten in processed food, cleaning/process water (without cleaner) 10 ng/ml gluten, (with cleaner) 50 - 100 ng/ml gluten (matrix dependend)	25 test strips in reclosable tube, 25 plastic pipettes, sample diluent (ready-to-use), 30 vials Incubation time: 5 min	R7003
RIDA®QUICK Gliadin (single packaged) AOAC-OMA 2015.16 „Final Action“ AACCI 38-60.01 AOAC-RI 101702	Corresponding to R7003, test strips are single packaged and no plastic pipettes are included	25 test strips single packaged, sample diluent (ready-to-use), 30 vials	R7004
RIDA®QUICK Gliadin (ready to swab) AOAC-RI 101702	Corresponding to R7003, test strips are single packaged, prefilled vials with ready-to-use sample buffer are included	25 test strips single packed, 25 prefilled vials with ready-to-use buffer	R7005
<b>Real-time PCR – qualitative and/or quantitative DNA detection</b>			
SureFood® ALLERGEN Gluten	Detection of gluten-containing cereals (wheat such as spelt and khorasan wheat, rye, barley, oats) Detection limit: ≤ 0.4 mg/kg; limit of quantification: 1 mg/kg depending on matrix and DNA preparation	100 reactions*	S3606

\* SureFood® QUANTARD Allergen 40 must be used for quantification.





## Allergens

### Soya

Product	Description	No. of tests/amount	Art. No.
<b>ELISA microtiter plates</b>			
RIDASCREEN®FAST Soya	Sandwich ELISA to quantify traces of soy protein in native and processed food; the kit is suitable for automation Detection limit: 0.24 mg/kg (0.15 - 0.32 matrix dependend)	48 determinations Incubation time: 30 min	R7102
<b>Lateral flow test strips</b>			
RIDA®QUICK Soya	Immunochromatographic test for the qualitative detection of soya (native and processed) contamination on surfaces and in food. For sample preparation, RIDA®QUICK Soya accessory pack (Art. No. Z7103) is recommended. For sample preparation from foods, the Soya extraction buffer (Art. No. R7113) should be used. Detection limit: on surfaces approx. 0.5 µg soya protein/ 100 cm², soya flour in wheat flour approx. 0.5mg/kg soya protein, in processed foods approx. 10 mg/kg soya protein (matrix dependend).	25 dip sticks in reclosable tube, conjugate, extraction buffer, 30 plastic tubes, 25 tubes, 26 swabs, 50 pipette tips Incubation time: 10 min	R7103
<b>RIDA®QUICK Soya – accessories</b>			
RIDA®QUICK Soya accessory pack	Accessories for the use of the RIDA®QUICK Soya	Test tube holder, floating rack, pipette	Z7103
RIDA®QUICK Soya Extraction buffer	The buffer is used for food sample preparation in conjunction with RIDA®QUICK Soya	2 x 100 ml	R7113
<b>Real-time PCR – qualitative and/or quantitative DNA detection</b>			
SureFood® ALLERGEN Soya	Detection limit: ≤ 0.4 mg/kg; limit of quantification: 1 mg/kg depending on matrix and DNA preparation	100 reactions*	S3601

\* SureFood® QUANTARD Allergen 40 must be used for quantification.





## Allergens

### Milk

Product	Description	No. of tests/amount	Art. No.
<b>ELISA microtiter plates</b>			
RIDASCREEN®FAST Milk AOAC-RI 101501	Sandwich ELISA to quantify traces of milk proteins (casein and $\beta$ -lactoglobulin) in food; the assay is calibrated to NIST SRM 1549a whole milk powder; the kit is suitable for automation Detection limit: 0.57 mg/kg milk protein (0.3 - 0.8 matrix dependend)	48 determinations Incubation time: 30 min	R4652
RIDASCREEN®FAST Casein	Sandwich ELISA to quantify traces of casein in food; the kit is suitable for automation Detection limit: extraction with Allergen extraction buffer for chocolate, ice cream and wine 0.12 mg/kg casein (0.07 - 0.19 matrix dependend); extraction with Extractor 2 for rice crispies and sausage 0.71 mg/kg casein (0.41 - 0.95 matrix dependend)	48 determinations Incubation time: 30 min	R4612
RIDASCREEN®FAST $\beta$ -Lactoglobulin	Sandwich ELISA to quantify traces of native and processed $\beta$ -lactoglobulin in food; the kit is suitable for automation Detection limit: 0.042 mg/kg $\beta$ -lactoglobulin (0.024 - 0.073 matrix dependend)	48 determinations Incubation time: 30 min	R4912
RIDASCREEN® $\beta$ -Lactoglobulin	Competitive ELISA to quantify processed $\beta$ -lactoglobulin in hydrolyzed milk products (e.g. hypoallergenic baby food) Detection limit: 1.4 mg/kg $\beta$ -lactoglobulin (0.9 - 2.1 matrix dependend)	96 determinations Incubation time: 2 hrs 45 min	R4901
<b>ELISA – accessories</b>			
RIDA® Extractor 2	The RIDA® Extractor 2 is used for the sample preparation in <ul style="list-style-type: none"> <li>• RIDASCREEN®FAST Milk (Art. No. R4652)</li> <li>• RIDASCREEN®FAST Casein (Art. No. R4612)</li> <li>• RIDASCREEN®FAST <math>\beta</math>-Lactoglobulin (Art. No. R4912)</li> </ul>	30 ml concentrate, sufficient for 15 samples	R4613
RIDA® Extraction solution (colorless)	For an alternative sample extraction with R4612; ask for the respective application note	105 ml	R7098
<b>Lateral flow test strips</b>			
bioavid Lateral Flow Milch/Milk	Immunochromatographic tests for qualitative detection of milk and milk powder residues (casein and $\beta$ -lactoglobulin) Detection limit: 1 mg/kg (0.1 - 1 matrix dependend)	10 test strips 25 test strips Total assay time: 10 min	BL613-10 BL613-25
<b>Reference material</b>			
MoniQA Milk Reference Material – Blank	Milled cookie; free from gluten, milk, egg, soy, peanut, tree-nuts; can be used as negative control and/or matrix material as basis for spiked samples Prepared and packaged by Trilogy Analytical Laboratories	1 x 5 g	MQA082015
MoniQA Milk Reference Material – SMP	Skim milk powder; can be used as a positive control or as a spike material Prepared and packaged by Trilogy Analytical Laboratories	1 x 5 g	MQA092014
MoniQA Milk Reference Material – Low	Skim milk powder incurred in gluten free cookies (milled) Prepared and packaged by Trilogy Analytical Laboratories	1 x 5 g	MQA102016
MoniQA Milk Reference Material – High	Skim milk powder incurred in gluten free cookies (milled) Prepared and packaged by Trilogy Analytical Laboratories	1 x 5 g	MQA082016
Set of 4 MoniQA Reference controls – Blank, SMP, High, Low	Set includes pouch of MQA082015, MQA092014, MQA102016, MQA082016 Prepared and packaged by Trilogy Analytical Laboratories	4 x 5 g	MQA122016





## Allergens

### Egg

Product	Description	No. of tests/amount	Art. No.
<b>ELISA microtiter plates</b>			
RIDASCREEN® Egg	Sandwich ELISA to quantify traces of native and processed egg in food; the assay is calibrated to NIST SRM 8445 whole egg powder; the kit is suitable for automation Detection limit: 0.13 mg/kg whole egg powder (0.04 - 0.27 matrix dependend)	96 determinations Incubation time: 50 min	R6411
RIDASCREEN®FAST Egg Protein	Sandwich ELISA to quantify traces of native egg in food; the assay is calibrated to NIST SRM 8445 whole egg powder; the kit is suitable for automation Detection limit: 0.1 mg/kg whole egg powder (0.05 - 0.16 matrix dependend), 0.03 mg/kg egg white protein	48 determinations Incubation time: 30 min	R6402
RIDASCREEN®FAST Lysozym	Sandwich ELISA to quantify traces of lysozyme in wine, cheese and sausage; the kit is suitable for automation Detection limit: 0.005 mg/kg lysozyme in wine, 0.011 mg/kg lysozyme in cheese and sausages	48 determinations Incubation time: 30 min	R6452
<b>Lateral flow test strips</b>			
bioavid Lateral Flow Ei/Egg	Immunochromatographic tests for qualitative detection of raw egg and egg powder residues Detection limit: 1 mg/kg (matrix dependend)	10 test strips 25 test strips Total assay time: 10 min	BL608-10 BL608-25

### Nuts and similar

<b>Almond</b>			
<b>ELISA microtiter plates</b>			
RIDASCREEN®FAST Mandel/Almond	Sandwich ELISA to quantify traces of almond in food; the kit is suitable for automation Detection limit: 0.1 mg/kg almond (0 - 0.23 matrix dependend)	48 determinations Incubation time: 30 min	R6901
<b>Lateral flow test strips</b>			
bioavid Lateral Flow Mandel/Almond	Immunochromatographic tests for qualitative detection of almond residues Detection limit: 1 mg/kg (matrix dependend)	10 test strips 25 test strips Total assay time: 10 min	BL601-10 BL601-25
bioavid Lateral Flow Mandel/Almond incl. Hook line	Immunochromatographic test for qualitative detection of almond residues; included hook line for detection of high positive samples Detection limit: 1 mg/kg (matrix dependend) Hook line upper limit: 1,000 mg/kg	20 test strips Total assay time: 10 min	BLH701-20
<b>Real-time PCR – qualitative and/or quantitative DNA detection</b>			
SureFood® ALLERGEN Almond	Detection limit: ≤ 0.4 mg/kg; limit of quantification: 1 mg/kg depending on matrix and DNA preparation	100 reactions*	S3604
<b>Brazil nut</b>			
<b>Lateral flow test strips</b>			
bioavid Lateral Flow Paranuss/Brazil nut	Immunochromatographic tests for qualitative detection of brazil nut residues Detection limit: 1 mg/kg (matrix dependend)	25 test strips Total assay time: 10 min	BL602-25
<b>Real-time PCR – qualitative and/or quantitative DNA detection</b>			
SureFood® ALLERGEN Brazil nut	Detection limit: ≤ 0.4 mg/kg; limit of quantification: 1 mg/kg depending on matrix and DNA preparation	100 reactions*	S3617

\* SureFood® QUANTARD Allergen 40 must be used for quantification.



## Allergens

### Nuts and similar

Product	Description	No. of tests/amount	Art. No.
<b>Cashew kernel</b>			
<b>ELISA microtiter plates</b>			
RIDASCREEN®FAST Cashew	Sandwich ELISA to quantify traces of cashew in food; Detection limit: 0.13 mg/kg cashew (0.10 - 0.19 matrix dependend)	48 determinations Incubation time: 30 min	R6872
<b>Lateral flow test strips</b>			
bioavid Lateral Flow Cashew Kernel	Immunochromatographic tests for qualitative detection of cashew kernel residues Detection limit: 1 mg/kg (matrix dependend)	10 test strips 25 test strips Total assay time: 10 min	BL610-10 BL610-25
<b>Real-time PCR – qualitative and/or quantitative DNA detection</b>			
SureFood® ALLERGEN Cashew	Detection limit: ≤ 0.4 mg/kg; limit of quantification: 1 mg/kg depending on matrix and DNA preparation	100 reactions*	S3615
<b>Coconut</b>			
<b>Lateral flow test strips</b>			
bioavid Lateral Flow Kokosnuss/Coconut	Immunochromatographic tests for qualitative detection of coconut residues Detection limit: 1 mg/kg (matrix dependend)	10 test strips 25 test strips Total assay time: 10 min	BL600-10 BL600-25
bioavid Lateral Flow Kokosnuss/Coconut incl. Hook line	Immunochromatographic test for qualitative detection of coconut residues; included hook line for detection of high positive samples Detection limit: 1 mg/kg (matrix dependend) Hook line upper limit: 10,000 mg/kg	20 test strips Total assay time: 10 min	BLH700-20
<b>Hazelnut</b>			
<b>ELISA microtiter plates</b>			
RIDASCREEN®FAST Hazelnut	Sandwich ELISA to quantify traces of hazelnut in food; the kit is suitable for automation Detection limit: 0.19 mg/kg hazelnut (0.17 - 0.22 matrix dependend)	48 determinations Incubation time: 30 min	R6802
<b>Lateral flow test strips</b>			
bioavid Lateral Flow Haselnuss/Hazelnut	Immunochromatographic tests for qualitative detection of hazelnut residues Detection limit: 1 mg/kg (matrix dependend)	10 test strips 25 test strips Total assay time: 10 min	BL604-10 BL604-25
bioavid Lateral Flow Haselnuss/Hazelnut incl. Hook line	Immunochromatographic test for qualitative detection of hazelnut residues; included hook line for detection of high positive samples Detection limit: 1 mg/kg (matrix dependend) Hook line upper limit: 1,000 mg/kg	20 test strips Total assay time: 10 min	BLH704-20
<b>Real-time PCR – qualitative and/or quantitative DNA detection</b>			
SureFood® ALLERGEN Hazelnut	Detection limit: ≤ 0.4 mg/kg; limit of quantification: 1 mg/kg depending on matrix and DNA preparation	100 reactions*	S3602
<b>Macadamia nut</b>			
<b>Lateral flow test strips</b>			
bioavid Lateral Flow Macadamia nut	Immunochromatographic tests for qualitative detection of macadamia nut residues Detection limit: 1 mg/kg (matrix dependend)	25 test strips Total assay time: 10 min	BL605-25
<b>Real-time PCR – qualitative and/or quantitative DNA detection</b>			
SureFood® ALLERGEN Macadamia	Detection limit: ≤ 0.4 mg/kg; limit of quantification: 1 mg/kg depending on matrix and DNA preparation	100 reactions*	S3616
<b>Pecan nut</b>			
<b>Real-time PCR – qualitative and/or quantitative DNA detection</b>			
SureFood® ALLERGEN Pecan	Detection limit: ≤ 0.4 mg/kg; limit of quantification: 1 mg/kg depending on matrix and DNA preparation	100 reactions*	S3618

\* SureFood® QUANTARD Allergen 40 must be used for quantification.





## Allergens

### Nuts and similar

Product	Description	No. of tests/amount	Art. No.
<b>Peanut</b>			
<b>ELISA microtiter plates</b>			
RIDASCREEN®FAST Peanut AOAC-RI 030404	Sandwich ELISA to quantify traces of peanut in food; the assay is calibrated to NIST SRM 2387 peanut butter; the kit is suitable for automation Detection limit: 0.13 mg/kg peanut (0.04 - 0.20 matrix dependend)	48 determinations Incubation time: 30 min	R6202
<b>Lateral flow test strips</b>			
bioavid Lateral Flow Erdnuss/Peanut	Immunochromatographic tests for qualitative detection of peanut residues Detection limit: 1 mg/kg (matrix dependend)	10 test strips 25 test strips Total assay time: 10 min	BL606-10 BL606-25
bioavid Lateral Flow Erdnuss/Peanut incl. Hook line	Immunochromatographic test for qualitative detection of peanut residues; included hook line for detection of high positive samples Detection limit: 1 mg/kg (matrix dependend) Hook line upper limit: 1,000 mg/kg	20 test strips Total assay time: 10 min	BLH706-20
<b>Real-time PCR – qualitative and/or quantitative DNA detection</b>			
SureFood® ALLERGEN Peanut	Detection limit: ≤ 0.4 mg/kg; limit of quantification: 1 mg/kg depending on matrix and DNA preparation	100 reactions*	S3603
<b>Pistachio</b>			
<b>Lateral flow test strips</b>			
bioavid Lateral Flow Pistazie/Pistachio	Immunochromatographic tests for qualitative detection of pistachio residues Detection limit: 1 mg/kg (matrix dependend)	10 test strips 25 test strips Total assay time: 10 min	BL611-10 BL611-25
<b>Real-time PCR – qualitative and/or quantitative DNA detection</b>			
SureFood® ALLERGEN Pistachio	Detection limit: ≤ 0.4 mg/kg; limit of quantification: 1 mg/kg depending on matrix and DNA preparation	100 reactions*	S3614
<b>Walnut</b>			
<b>Lateral flow test strips</b>			
bioavid Lateral Flow Walnuss/Walnut	Immunochromatographic tests for qualitative detection of walnut residues Detection limit: 10 mg/kg (matrix dependend)	10 test strips 25 test strips Total assay time: 10 min	BL607-10 BL607-25
<b>Real-time PCR – qualitative and/or quantitative DNA detection</b>			
SureFood® ALLERGEN Walnut	Detection limit: ≤ 0.4 mg/kg; limit of quantification: 1 mg/kg depending on matrix and DNA preparation	100 reactions*	S3607

\* SureFood® QUANTARD Allergen 40 must be used for quantification.





## Allergens

### Oil plants

Product	Description	No. of tests/amount	Art. No.
<b>ELISA microtiter plates</b>			
RIDASCREEN®FAST Sesame	Sandwich ELISA to quantify traces of sesame in food; the kit is suitable for automation Detection limit: 0.14 mg/kg sesame (0.08 - 0.20 matrix dependend)	48 determinations Incubation time: 30 min	R7202
<b>Lateral flow test strips</b>			
bioavid Lateral Flow Sesam/Sesame	Immunochromatographic tests for qualitative detection of sesame residues Detection limit: 1 mg/kg (matrix dependend)	10 test strips 25 test strips Total assay time: 10 min	BL609-10 BL609-25
<b>Real-time PCR – qualitative and/or quantitative DNA detection</b>			
SureFood® ALLERGEN Sesame	Detection limit: ≤ 0.4 mg/kg; limit of quantification: 1 mg/kg depending on matrix and DNA preparation	100 reactions*	S3608



### Fish/crustacean/seafood

<b>ELISA microtiter plates</b>			
RIDASCREEN®FAST Crustacean	Sandwich ELISA to quantify traces of crustacean in food; the kit is suitable for automation Detection limit: 2 mg/kg crustacean (0.9 - 2.6 matrix dependend)	48 determinations Incubation time: 30 min	R7312
<b>Lateral flow test strips</b>			
bioavid Lateral Flow Crustacean	Immunochromatographic tests for qualitative detection of crustacean residues Detection limit: 10 mg/kg (matrix dependend)	10 test strips 25 test strips Total assay time: 10 min	BL616-10 BL616-25
<b>Real-time PCR - qualitative and/or quantitative DNA detection</b>			
SureFood® ALLERGEN Crustaceans	Detection limit: ≤ 0.4 mg/kg; limit of quantification: 1 mg/kg depending on matrix and DNA preparation	100 reactions*	S3612
SureFood® ALLERGEN Fish	Detection limit: ≤ 1 mg/kg; limit of quantification: 4 mg/kg depending on matrix and DNA preparation	100 reactions*	S3610
SureFood® ALLERGEN Molluscs	Detection limit: ≤ 0.4 mg/kg, qualitative only, depending on matrix and DNA preparation	100 reactions	S3613



\* SureFood® QUANTARD Allergen 40 must be used for quantification.



## Allergens

### Various

Product	Description	No. of tests/amount	Art. No.
<b>Real-time PCR – qualitative DNA detection</b>			
SureFood® ALLERGEN Oat	Detection limit: ≤ 1 mg/kg depending on the matrix and DNA preparation	100 reactions	S7004
SureFood® ALLERGEN Buckwheat	Detection limit: ≤ 0.4 mg/kg depending on the matrix and DNA preparation	100 reactions	S7005
<b>Real-time PCR – qualitative and/or quantitative DNA detection</b>			
SureFood® ALLERGEN Celery	Detection limit: ≤ 0.4 mg/kg; limit of quantification: 1 mg/kg depending on matrix and DNA preparation	100 reactions*	S3605
<b>ELISA microtiter plates</b>			
RIDASCREEN®FAST Lupine	Sandwich ELISA to quantify traces of lupine in food Detection limit: 0.32 mg/kg lupine protein (0.12 - 0.65 matrix dependend)	48 determinations Incubation time: 30 min	R6102
<b>Real-time PCR – qualitative and/or quantitative DNA detection</b>			
SureFood® ALLERGEN Lupin	Detection limit: ≤ 0.4 mg/kg; limit of quantification: 1 mg/kg depending on matrix and DNA preparation	100 reactions*	S3611
<b>ELISA microtiter plates</b>			
RIDASCREEN®FAST Senf/Mustard	Sandwich ELISA to quantify traces of mustard in food; the assay detects yellow, white, brown and black mustard; the kit is suitable for automation Detection limit: 0.1 mg/kg mustard powder (0.08 - 0.11 matrix dependend)	48 determinations Incubation time: 30 min	R6152
<b>Lateral flow test strips</b>			
bioavid Lateral Flow Senf/Mustard	Immunochromatographic tests for qualitative detection of mustard residues Detection limit: 1 mg/kg (matrix dependend)	10 test strips 25 test strips Total assay time: 10 min	BL603-10 BL603-25
bioavid Lateral Flow Senf/Mustard incl. Hook line	Immunochromatographic test for qualitative detection of mustard residues; included hook line for detection of high positive samples Detection limit: 1 mg/kg (matrix dependend) Hook line upper limit: 1,000 mg/kg	20 test strips Total assay time: 10 min	BLH703-20
<b>Real-time PCR – qualitative and/or quantitative DNA detection</b>			
SureFood® ALLERGEN Mustard	Detection limit: ≤ 0.4 mg/kg limit of quantification: 1 mg/kg depending on matrix and DNA preparation	100 reactions*	S3609
SureFood® Apricot	Detection limit: ≤ 5 DNA copies depending on matrix and DNA preparation; qualitative only	100 reactions	S7007
SureFood® Rice	Detection limit: ≤ 5 DNA copies depending on matrix and DNA preparation; qualitative only	100 reactions	S6103

\* SureFood® QUANTARD Allergen 40 must be used for quantification.





## Allergens

### Real-time PCR – multiplex

Product	Description	No. of tests/amount	Art. No.
<b>Multiplex Screening</b>			
<b>Real-time PCR – qualitative DNA detection</b>			
SureFood® ALLERGEN 4plex Peanut/Hazelnut/Walnut + IAC	Detection limit: ≤ 1 mg/kg peanut ≤ 0.4 mg/kg hazelnut ≤ 0.4 mg/kg walnut; depending on matrix and DNA preparation	100 reactions	S3402
SureFood® ALLERGEN 4plex Soya/Celery/Mustard + IAC	Detection limit ≤ 0.4 mg/kg depending on matrix and DNA preparation	100 reactions	S3401
SureFood® ALLERGEN 4plex Macadamia/Brazil Nut/Pecan + IAC	Detection limit: ≤ 0.4 mg/kg depending on matrix and DNA preparation	100 reactions	S3403
SureFood® ALLERGEN 4plex Cereals	Detection limit: ≤ 1 mg/kg depending on matrix and DNA preparation Qualitative detection and differentiation of specific wheat ( <i>Triticum</i> ), barley ( <i>Hordeum vulgare</i> ) and rye ( <i>Secale cereale</i> ) DNA sequences	100 reactions	S7006



### Accessories

<b>Real-time PCR</b>		<b>DNA preparation</b>	
SureFood® PREP Advanced	For highly processed matrices (food and feed)	50 preparations	S1053
SureFast® Mag PREP Food	For DNA extraction of animal and plant DNA from food and feed For the use in combination with the TANBead Maelstrom™ 8 Autostage (Art. No. ZMAL8) and Maelstrom™ 4800 (Art. No. ZMAL48)	96 preparations	F1060
<b>Real-time PCR</b>		<b>Laboratory reference material for quantification</b>	
SureFood® QUANTARD Allergen 40	Corn flour contains 12 potential allergens in food except sulphite and lactose with concentration of 40 mg/kg; the material has been developed for PCR quantification of allergens in food	2 grams	S3301
<b>Lateral Flow</b>		<b>Accessories</b>	
bioavid Wischtest Kit/Swabbing Kit (Wood)	Swabbing kit with wood swabs for sampling of allergen residues on surface (e.g. production lines) for bioavid lateral flow kits	25 swabs, vials, pipettes, 10 ml buffer concentrate	BS800-25
bioavid Wischtest Kit/Swabbing Kit (Plastic)	Swabbing kit with single packed plastic swabs for sampling of allergen residues on surface (e.g. production lines) for bioavid lateral flow kits	25 swabs in two single packaged plastic bags, vials, pipettes, 10 ml buffer concentrate	BS801-25
bioavid Absorbionspuffer/Absorbent Buffer	Buffer for preparation of polyphenol containing and strongly colored samples (e.g. coffee, red wine) for bioavid lateral flow kits	25 vials (9 ml buffer each)	BS810-25
bioavid Probenpuffer/Sample Buffer	Sample buffer particularly suitable for the preparation of difficult samples (e.g. ketchup, mayonnaise, flour, chocolate) for bioavid lateral flow kits	100 ml	BS815-100
<b>Service by bioavid</b>			
Laboratory service	Service for the validation of difficult food matrices	Approx. 1 week processing time	on request





## Allergens

Parameters	RIDA®QUICK bioavid	RIDASCREEN®	SureFood®	Enzytec™
	Lateral flow	ELISA	Real-time PCR	Enzymatic
Almond	●●	●●	●	
Brazil nut	●		●●	
Cashew kernel	●	●	●	
Casein		●●		
Celery			●●	
Coconut	●●			
Crustacean	●	●●	●	
Egg	●	●●		
Fish			●	
Gliadin/gluten	●	●●	●	
Gliadin/gluten fragments		●●		
Glutamic acid				●
Hazelnut	●●	●●	●●	
Histamine		●●		●●
β-Lactoglobulin		●●		
β-Lactoglobulin fragments		●		
Lactose				●
Lupine		●	●	
Lysozyme		●●		
Macadamia	●		●●	
Milk	●	●●		
Molluscs			●	
Mustard	●●	●●	●●	
Peanut	●●	●●	●●	
Pecan			●●	
Pistachio	●		●	
Sesame	●	●●	●	
Soya	●	●●	●●	
Sulfite				●
Walnut	●		●●	

### Multiplex tests:

- SureFood® ALLERGEN 4plex Soya/Celery/Mustard + IAC (Art. No. S3401)
- SureFood® ALLERGEN 4plex Peanut/Hazelnut/Walnut + IAC (Art. No. S3402)
- SureFood® ALLERGEN 4plex Macadamia/Brazil Nut/Pecan + IAC (Art. No. S3403)
- ELISA is suitable for automation
- Also available with hook line





# GMO analysis in food and feed

**Commercially available genetically modified organisms (GMO) are usually transgenic plants in which DNA from foreign species were artificially implemented.**

These DNA sequences, mostly for herbicide and/or insect resistance are enveloped in a frame of viral or bacterial DNA sequences which serves as promoters or terminators. Different international and national legislations and labelling regulations require a multi-stage analysis, for which real-time PCR is the method of choice. In October 2015, the European Network of GMO Laboratories (ENGL) defined minimum performance requirements, which are fulfilled by the SureFood® kits.

1. The presence of GMOs can be screened by identifying the genetic sequence elements 35S, NOS or FMV. Further genetic elements may be expected in the future. 35S positive results should be confirmed for absence of natural contamination with the cauliflower mosaic virus using the CaMV detection kit. Furthermore, the efficiency of the DNA preparation should be confirmed using plant DNA, when analysing a new matrix.
2. For GMO positive samples the identification of the GMO event is of main interest, to classify the food product as approved or illegal GMO. In Europe the legislation EC 1829/2003 and 1831/2003 describes the relevant regulations. Non-approved GMO products are not allowed to enter or to be produced or processed in Europe. A zero tolerance strategy is in force for Europe, while for feed samples a technical threshold of 0.1 % has been established (EC 618/2011). Food products with a content of > 0.9 % approved GMO per matrix must be labelled.
3. For approved GMOs in food samples quantification in the relevant range of approximately 0.9 % is of main interest. The GMO content in DNA copy numbers can be quantified relative to the plant matrix and the results will be given in percent.



### SureFood® PREP Basic/Advanced

- Efficient, streamlined DNA sample preparation from food and feed matrices
- Highly purified DNA
- For raw and high processed food and feed samples



### SureFood® GMO SCREEN

- Multiplex assay for 35S/NOS/FMV + IAC, BAR/NPTII/PAT/CTP2:CP4 EPSPS, Corn/Soya/Canola/Cotton
- Single assays for vectors
- Plant specific GMO event multiplex assays for soya, corn, canola



### SureFood® GMO QUANT

- Identification and quantification
- Robust detection system
- Wide product range
- Suitable for most available real-time thermocyclers



## GMO

## DNA preparation

Product	Description	No. of tests/amount	Art. No.
<b>DNA preparation</b>			
SureFood® PREP Basic	DNA preparation of food and feed	100 preparations	S1052
SureFood® PREP Advanced	DNA preparation of highly processed food and feed	50 preparations	S1053
SureFood® PREP Add-On	DNA preparation kit for 2 g sample weight in conjunction with SureFood® PREP Basic (Art. No. S1052)	15 extractions	S1055
SureFast® Animal+Plant Control 3plex	Extraction control for plant or animal matrix including internal control DNA (ICD) Detection limit: ≤ 500 DNA copies depending on matrix and DNA preparation	100 reactions	F4053
SureFast® Mag PREP Food	For DNA extraction of animal and plant DNA from food and feed. For the use in combination with the TANBead Maelstrom™ 8 Autostage (ZMAL8) or Maelstrom™ 4800 (Art. No. ZMAL48).	96 preparations	F1060

## Real-time PCR screening

<b>Screening</b>			
SureFood® GMO Plant PLUS	Detection limit: ≤ 5 DNA copies depending on matrix and DNA preparation	100 reactions	S2049
SureFood® GMO SCREEN CaMV	Detection limit: ≤ 5 DNA copies depending on matrix and DNA preparation	100 reactions	S2027
SureFood® GMO SCREEN P35S:BAR Rice	Detection limit: ≤ 5 DNA copies depending on matrix and DNA preparation	2 x 50 reactions	S2022
<b>Multiplex Screening</b>			
SureFood® GMO SCREEN 4plex 35S/NOS/FMV + IAC	Detection limit: ≤ 5 DNA copies depending on matrix and DNA preparation	100 reactions	S2126
SureFood® GMO SCREEN 4plex BAR/NPTII/PAT/CTP2:CP4 EPSPS	Detection limit: ≤ 5 DNA copies depending on matrix and DNA preparation	100 reactions	S2127
SureFood® GMO SCREEN 4plex BAR/PAT/CryIAb/CTP2:CP4 EPSPS	Detection limit: ≤ 5 DNA copies depending on matrix and DNA preparation	100 reactions	S2128
SureFood® GMO Plant 4plex Corn/Soya/Canola/Cotton	Detection limit: ≤ 500 DNA copies; this is equivalent to approx. 0.01 % for unprocessed grain. depending on matrix and DNA preparation	100 reactions	S2156
SureFood® GMO Plant 4plex Corn/Soya/Canola + IAC	Detection limit: ≤ 500 DNA copies; this is equivalent to approx. 0.01 % for unprocessed grain. depending on matrix and DNA preparation	100 reactions	S2158





## GMO

### Real-time PCR – qualitative DNA detection

Product	Description	No. of tests/amount	Art. No.
<b>Canola</b>			
SureFood® GMO ID 4plex Canola I	Detection limit: ≤ 5 DNA copies depending on matrix and DNA preparation Events: MS8/GT73/T45	100 reactions	S2166
SureFood® GMO ID 4plex Canola II	Detection limit: ≤ 5 DNA copies depending on matrix and DNA preparation Events: MON88302/DP73496/RF3	100 reactions	S2167
<b>Corn</b>			
SureFood® GMO ID 4plex Corn I	Events: MON810/TC1507/NK603/MON89034 Detection limit: ≤ 5 DNA copies. This is equivalent to approx. 0.01 % for unprocessed corn grain.	100 reactions	S2170
SureFood® GMO ID DAS-40278-9 Corn	Detection limit: ≤ 5 DNA copies depending on matrix and DNA preparation. This is equivalent to approx. 0.01 % for unprocessed corn grain.	100 reactions	S2140
<b>Rice</b>			
SureFood® GMO ID Bt63 Rice	Detection limit: ≤ 5 DNA copies depending on matrix and DNA preparation	2 x 50 reactions	S2024
<b>Soya</b>			
SureFood® GMO ID 4plex Soya I	Detection limit: ≤ 5 DNA copies depending on matrix and DNA preparation Events: MON87708, CV127/DP305423/MON87701/MON87769	100 reactions	S2161
SureFood® GMO ID 4plex Soya II	Detection limit: ≤ 5 DNA copies depending on matrix and DNA preparation; This is equivalent to approx. 0.01 % of unprocessed soybean. Events: RR-Soya/RR-2 Yield Soya/A2704-12 Soya/A5547-127 Soya	100 reactions	S2162



### Reference material

SureFood® GMO Plant Reference Sample	0.1 % Canola/Corn/Rice/Soya	2 gram	S2150
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## GMO

## Real-time PCR – quantitative DNA detection

Product	Description	No. of tests/amount	Art. No.
<b>Canola</b>			
SureFood® GMO QUANT GT73 Canola	Limit of detection: ≤ 5 DNA copies; Limit of quantification: 0.1 % depending on matrix and DNA preparation	2 x 50 reactions**	S2061
<b>Corn</b>			
SureFood® GMO QUANT Bt176 Corn	Limit of detection: ≤ 5 DNA copies; Limit of quantification: 0.1 % depending on matrix and DNA preparation	2 x 50 reactions**	S2015
SureFood® GMO QUANT Bt11 Corn	Limit of detection: ≤ 5 DNA copies; Limit of quantification: 0.1 % depending on matrix and DNA preparation	2 x 50 reactions**	S2016
SureFood® GMO QUANT T25 Corn	Limit of detection: ≤ 5 DNA copies; Limit of quantification: 0.1 % depending on matrix and DNA preparation	2 x 50 reactions**	S2017
SureFood® GMO QUANT MON810 Corn	Limit of detection: ≤ 5 DNA copies; Limit of quantification: 0.1 % depending on matrix and DNA preparation	2 x 50 reactions**	S2019
SureFood® GMO QUANT 35S Corn	Limit of detection: ≤ 5 DNA copies; Limit of quantification: 0.1 % depending on matrix and DNA preparation	2 x 50 reactions**	S2020
SureFood® GMO QUANT NK603 Corn	Limit of detection: ≤ 5 DNA copies; Limit of quantification: 0.1 % depending on matrix and DNA preparation	2 x 50 reactions**	S2050
SureFood® GMO QUANT MON863 Corn	Limit of detection: ≤ 5 DNA copies; Limit of quantification: 0.1 % depending on matrix and DNA preparation	2 x 50 reactions**	S2051
SureFood® GMO QUANT MIR162 Corn	Limit of detection: ≤ 5 DNA copies; Limit of quantification: 0.1 % depending on matrix and DNA preparation	2 x 50 reactions**	S2135
SureFood® GMO QUANT GA21 Corn	Limit of detection: ≤ 5 DNA copies; Limit of quantification: 0.1 % depending on matrix and DNA preparation	2 x 50 reactions**	S2054
SureFood® GMO QUANT TC1507 Corn	Limit of detection: ≤ 5 DNA copies; Limit of quantification: 0,1 % depending on matrix and DNA preparation	2 x 50 reactions**	S2081
SureFood® GMO QUANT MON89034 Corn	Limit of detection: ≤ 5 DNA copies; Limit of quantification: 0,1 % depending on matrix and DNA preparation	2 x 50 reactions**	S2071
<b>Soya</b>			
SureFood® GMO QUANT Roundup Ready Soya	Limit of detection: ≤ 5 DNA copies; Limit of quantification: 0.1 % depending on matrix and DNA preparation	2 x 50 reactions**	S2014
SureFood® GMO QUANT 35S Soya	Limit of detection: ≤ 5 DNA copies; Limit of quantification: 0.1 % depending on matrix and DNA preparation	2 x 50 reactions**	S2028
SureFood® GMO QUANT RR2Y Soya	Limit of detection: ≤ 5 DNA copies; Limit of quantification: 0.1 % depending on matrix and DNA preparation	2 x 50 reactions**	S2029

\*\* 1 x 50 reactions for the detection of the reference gene.









# Identification of animal species/risk material/BSE

Due to the increasing complexity of meat supply chains, and prevalent product falsifications, species identification testing has become a cornerstone of food quality assurance and fraud prevention. Real-time PCR and ELISA deliver robust, reliable results even from processed food and feed samples.

## Animal species detection

The aspects of animal species detection might be categorized into three application groups:

- **Product falsification**

Product falsification with cheaper undeclared meat might be identified qualitatively using the ANIMAL ID and ELISA-TEK™ and quantitatively using the ANIMAL QUANT kits.

- **Species detection**

In some cases, especially for religious aspects such as kosher or halal with a zero tolerance strategy, highly sensitive qualitative detection is required. The ANIMAL ID Pork SENS PLUS kit enables an extremely sensitive detection.

- **Fish species detection**

According to the EC 1379/2013 regulation fish products must be labelled with the common trade name and the scientific name. Fish ID real-time kits are available for the most important fish species.

- **Feed**

Due to the ending of the BSE crisis, it might be expected that meat and bone meal (MBM) will be used to feed animals again. However, feeding to ruminants should be avoided.

Due to its stability, DNA is an excellent marker for animal identification. Real-time PCR can be used even for processed food and feed samples, with the exception of some highly processed products such as gelatin. The product line with Internal Amplification and Animal Control (IAAC) has higher sensitivity and includes an amplification and extraction control.



### SureFood® PREP Basic

- Efficient, streamlined DNA sample preparation from food and feed matrices
- Highly purified DNA



### SureFood® ANIMAL ID

- Identification and quantification
- Multiplex assays
- Internal amplification and animal control as extraction control



## Animal species identification/risk material/BSE

### Real-time PCR – qualitative DNA detection

Product	Description	No. of tests/amount	Art. No.
<b>DNA preparation</b>			
SureFast® Mag PREP Food	For DNA extraction of animal and plant DNA from food and feed. For the use in combination with the TANBead Maelstrom™ 8 Autostage (Art. No. ZMAL8) or Maelstrom™ 4800 (Art. No. ZMAL48)	96 preparations	F1060
SureFood® PREP Basic	DNA preparation of food and feed	100 preparations	S1052
SureFast® Animal+Plant Control 3plex	Extraction control for plant or animal matrix including internal control DNA (ICD) Detection limit: ≤ 500 DNA copies.	100 reactions	F4053
<b>Multiplex screening</b>			
SureFood® ANIMAL ID 4plex Beef/Sheep/Goat + IAAC*	Detection limit: 0.1 % depending on matrix and DNA preparation	100 reactions	S6121
SureFood® ANIMAL ID 4plex Pork/Chicken/Turkey + IAAC*	Detection limit: 0.1 % depending on matrix and DNA preparation	100 reactions	S6123
SureFood® ANIMAL ID 4plex Beef/Horse/Pork + IAAC*	Detection limit: pork 0.5 %, beef, horse 0.1 % depending on matrix and DNA preparation	100 reactions	S6126
SureFood® ANIMAL ID 3plex Water Buffalo/Beef + IAAC*	Detection limit: 0.1 % depending on matrix and DNA preparation	100 reactions	S6130
SureFood® ANIMAL ID 4plex Camel/Horse/Donkey + IAAC*	Detection limit: 0.1 % depending on matrix and DNA preparation	100 reactions	S6131
SureFood® ANIMAL ID 4plex Bison/Water Buffalo/Kangaroo + IAAC	Detection limit: 0.5 % depending on matrix and DNA preparation	100 reactions	S6132
SureFood® ANIMAL ID 3plex Horse/Donkey + IAAC*	Detection limit: 0.1 % depending on matrix and DNA preparation	100 reactions	S6119
SureFood® ANIMAL ID 3plex Cat/Dog + IAAC*	Detection limit: 0.5 % depending on matrix and DNA preparation	100 reactions	S6112
<b>Farm animals</b>			
SureFood® ANIMAL ID Beef IAAC*	Detection limit: 0.1 % depending on matrix and DNA preparation	100 reactions	S6113
SureFood® ANIMAL ID Horse IAAC*	Detection limit: 0.1 % depending on matrix and DNA preparation	100 reactions	S6118
SureFood® ANIMAL ID Pork SENS PLUS	Detection limit: ≤ 0.0001 % depending on matrix and DNA preparation	100 reactions	S6017
SureFood® ANIMAL ID Pork IAAC*	Detection limit: 0.5 % depending on matrix and DNA preparation	100 reactions	S6114
<b>Poultry</b>			
SureFood® ANIMAL ID Chicken IAAC*	Detection limit: 0.1 % depending on matrix and DNA preparation	100 reactions	S6115
SureFood® ANIMAL ID Turkey IAAC*	Detection limit: 0.1 % depending on matrix and DNA preparation	100 reactions	S6116
SureFood® ANIMAL ID Poultry IAAC*	Detection limit: 0.1 % depending on matrix and DNA preparation	100 reactions	S6125
<b>Other species</b>			
SureFood® ANIMAL ID Rabbit IAAC*	Detection limit: 0.1 % depending on matrix and DNA preparation	100 reactions	S6120
SureFood® ANIMAL ID 3plex Rat/Mouse + IAAC*	Detection limit: ≤ 500 DNA copies	100 reactions	S6127

\* IAAC = Internal Amplification and Animal Control.



## Animal species identification/risk material/BSE

### Real-time PCR – quantitative DNA detection

Product	Description	No. of tests/amount	Art. No.
<b>Farm animals</b>			
SureFood® ANIMAL QUANT Beef	Detection limit: ≤ 5 DNA copies; limit of quantification: 0.04 % depending on matrix and DNA preparation	2 x 50 reactions**	S1010
SureFood® ANIMAL QUANT Pork	Detection limit: ≤ 5 DNA copies; limit of quantification: 0.04 % depending on matrix and DNA preparation	2 x 50 reactions**	S1011
<b>Poultry</b>			
SureFood® ANIMAL QUANT Chicken	Detection limit: ≤ 5 DNA copies; limit of quantification: 0.1 % depending on matrix and DNA preparation	2 x 50 reactions**	S1014



\*\* 1 x 50 reactions for the detection of the reference gene.



## Animal species identification/risk material/BSE

### SureFood® FISH ID\*\*

Product	Description	No. of tests/amount	Art. No.
<b>Fish – tuna</b>			
SureFood® FISH ID Katsuwonus pelamis IAAC*	Detection of skipjack tuna; Detection limit: 1 % depending on matrix and DNA preparation	50 reactions	S6314
<b>Fish – cod-like</b>			
SureFood® FISH ID Gadus chalcogrammus IAAC*	Detection of Alaska pollock; Detection limit: 5 % depending on matrix and DNA preparation	50 reactions	S6313
SureFood® FISH ID Gadus macrocephalus IAAC*	Detection of pacific cod; Detection limit: 2 % depending on matrix and DNA preparation	50 reactions	S6308
SureFood® FISH ID Gadus morhua IAAC*	Detection of atlantic cod; Detection limit: 0.5 % depending on matrix and DNA preparation	50 reactions	S6310
SureFood® FISH ID Melanogrammus aeglefinus IAAC*	Detection of haddock; Detection limit: 1 % depending on matrix and DNA preparation	50 reactions	S6307
SureFood® FISH ID Merlangius merlangus IAAC*	Detection of whiting; Detection limit: 0.1 % depending on matrix and DNA preparation	50 reactions	S6312
SureFood® FISH ID Merluccius merluccius IAAC*	Detection of european hake; Detection limit: 1 % depending on matrix and DNA preparation	50 reactions	S6311
SureFood® FISH ID Pollachius virens IAAC*	Detection of pollock/saithe; Detection limit: 1 % depending on matrix and DNA preparation	50 reactions	S6309
<b>Fish – salmon-like</b>			
SureFood® FISH ID Oncorhynchus gorboscha IAAC*	Detection of humpback salmon; Detection limit: 0.1 % depending on matrix and DNA preparation	50 reactions	S6303
SureFood® FISH ID Oncorhynchus mykiss IAAC*	Detection of rainbow trout; Detection limit: 0.1 % depending on matrix and DNA preparation	50 reactions	S6302
SureFood® FISH ID Oncorhynchus nerka IAAC*	Detection of red salmon; Detection limit: 0.1 % depending on matrix and DNA preparation	50 reactions	S6304
SureFood® FISH ID Oncorhynchus tshawytscha IAAC*	Detection of chinook salmon; Detection limit: 0.1 % depending on matrix and DNA preparation	50 reactions	S6301
SureFood® FISH ID Salmo salar IAAC*	Detection of atlantic salmon; Detection limit: 0.1 % depending on matrix and DNA preparation	50 reactions	S6306
SureFood® FISH ID Salmo trutta IAAC*	Detection of trout; Detection limit: 0.1 % depending on matrix and DNA preparation	50 reactions	S6305
<b>Fish – multiplex</b>			
SureFood® FISH ID 3plex Halibut IAAC*	Differentiation of white ( <i>Hippoglossus hippoglossus</i> ) and black halibut ( <i>Reinhardtius hippoglossoides</i> ); Detection limit: 1 %, depending on matrix and DNA preparation	50 reactions	S6201

\* IAAC = Internal Amplification and Animal Control.

\*\* All Fish ID kits are R&D versions.



## Animal species identification/risk material/BSE

### ELISA-based species identification in food and feed

Product	Description	No. of tests/amount	Art. No.
<b>Raw meat species kits</b>			
<b>ELISA microtiter plates</b>			
ELISA-TEK™ Raw Mixed Species Kit	Assay for the positive identification of species content (customized) in raw samples	96 determinations Incubation time: 50 min	510501
ELISA-TEK™ Raw 3 Species Kit	Assay for the positive identification of species content (cow, pig, poultry) in raw samples	32 determinations per species Incubation time: 50 min	510503
ELISA-TEK™ Raw 4 Species Kit	Assay for the positive identification of species content (cow, pig, poultry sheep) in raw samples	24 determinations per species Incubation time: 50 min	510504
ELISA-TEK™ Raw Beef Kit	Assay for the positive identification of species content (beef) in raw samples	96 determinations Incubation time: 50 min	510511
ELISA-TEK™ Raw Pork Kit	Assay for the positive identification of species content (pork) in raw samples	96 determinations Incubation time: 50 min	510521
ELISA-TEK™ Raw Poultry Kit	Assay for the positive identification of species content (poultry) in raw samples	96 determinations Incubation time: 50 min	510531
ELISA-TEK™ Raw Sheep Kit	Assay for the positive identification of species content (sheep) in raw samples	96 determinations Incubation time: 50 min	510541
ELISA-TEK™ Raw Horse Kit	Assay for the positive identification of species content (horse) in raw samples	96 determinations Incubation time: 50 min	510551
<b>Cooked meat species kits</b>			
<b>ELISA microtiter plates</b>			
ELISA-TEK™ Cooked Meat Mixed Species Kit	Assay for the positive identification of species content (customized) in cooked samples	96 determinations Incubation time: 3 h	510601
ELISA-TEK™ Cooked Meat 3 Species Kit	Assay for the positive identification of species content (beef, pork, poultry) in cooked samples	32 determinations per species Incubation time: 3 h	510603
ELISA-TEK™ Cooked Meat 4 Species Kit	Assay for the positive identification of species content (beef, pork, poultry, sheep) in cooked samples	24 determinations per species Incubation time: 3 h	510604
ELISA-TEK™ Cooked Meat Beef Kit	Assay for the positive identification of species content (beef) in cooked samples	96 determinations Incubation time: 3 h	510611
ELISA-TEK™ Cooked Meat Pork Kit	Assay for the positive identification of species content (pork) in cooked samples	96 determinations Incubation time: 3 h	510621
ELISA-TEK™ Cooked Meat Poultry Kit	Assay for the positive identification of species content (poultry) in cooked samples	96 determinations Incubation time: 3 h	510631
ELISA-TEK™ Cooked Meat Sheep Kit	Assay for the positive identification of species content (sheep) in cooked samples	96 determinations Incubation time: 3 h	510641
ELISA-TEK™ Cooked Meat Horse Kit	Assay for the positive identification of species content (horse) in cooked samples	96 determinations Incubation time: 3 h	510651
ELISA-TEK™ Cooked Meat Deer Kit	Assay for the positive identification of species content (deer) in cooked samples	96 determinations Incubation time: 3 h	510661
<b>Meat and bone meal kits</b>			
<b>ELISA microtiter plates</b>			
MELISA-TEK™ Meat Species Ruminant Kit	Assay for the positive identification of species content (ruminant) in meat and bone meals, animals feeds, and cooked and uncooked foods	96 determinations Incubation time: 1 h 20 min	510311
MELISA-TEK™ Meat Species Pork Kit	Assay for the positive identification of species content (porcine) in meat and bone meals, animals feeds, and cooked and uncooked foods	96 determinations Incubation time: 1 h 20 min	510321
MELISA-TEK™ High Sensitivity Extraction Kit	This kit provides a protocol and all materials to improve the sensitivity of the MELISA-TEK™ RUMINANT assay		510391
<b>Pangasius</b>			
<b>Test strips</b>			
EZ PANGASIUS™ Pangasius Rapid Kit	Assay for the positive identification of species content (pangasius) in a sample	10 test strips	510EZP
<b>Pork</b>			
<b>Test strips</b>			
ELISA-TEK™ EZ Pork	Assay for the positive identification of species content (cooked & processed pork) in a sample	10 test strips	530EZPK
ELISA-TEK™ EZ Pork raw	Assay for the positive identification of species content (raw pork) in a sample	10 test strips	540EZPKR



## Animal species identification/risk material/BSE

### Risk material

Product	Description	No. of tests/amount	Art. No.
ELISA microtiter plates			
RIDASCREEN® Risk Material	Enzyme immunoassay for quantitative analysis of risk material (CNS) in processed meat and meat products Detection limit: < 0.2 % for CNS tissue	96 determinations Incubation time: 1 hr	R6701
RIDASCREEN® Risk Material 10/5	Enzyme immunoassay for qualitative analysis of risk material (CNS) in raw meat, meat products and on contaminated surfaces Detection limit: < 0.1 % for CNS tissue	96 determinations Incubation time: 15 min	R6703



### BSE

BSE/antibody			
RIDA®mAb L42	Monoclonal antibody for the detection of prion-protein with immunohistochemistry (IHC) and immunoblot	23 µg	R8005
RIDA®mAb P4	Monoclonal antibody for the detection of prion-protein with immunohistochemistry (IHC) and immunoblot	1 mg	R8007
RIDA®mAb P4	Monoclonal antibody for the detection of prion-protein with immunohistochemistry (IHC) and immunoblot	0.1 mg	R8008







# Analysis for microbiological food safety

**Rapid test formats for reliable microbiological analysis in food and plants for highly specific, sensitive and fast test combinations for use with a wide range of applications.**

## **Product testing**

All kinds of commodities are potentially at risk of contamination by spoiling organisms and pathogens. Therefore, R-Biopharm offers reliable kits for the analysis of meat and meat-products, dairy products, egg and egg-products, vegetable, fruits, herbs and spices, beverages, cereals and cereal-products as well as prepared meals. Well-established methods for on-site testing are classic microbiological testing, highly specific detection with real-time PCR, or confirmation of bacterial toxins by ELISA tests.

## **Production surrounding area and condition**

Quality and safety standards are considered when minimizing the risk of product contamination.

Important characteristics for tests used in efficient hygiene and cleaning control are:

- High sensitivity
- Rapidness
- Repeatability

Reliability of results is important for immediate and long-term decisions.



## Bacterial toxins and pathogens

### RIDASCREEN® ELISA

Detection of bacterial toxins

### Compact Dry

Dry nutrient media for detection of pathogens



## Bacteria, yeast and mould, viruses

### SureFast® real-time PCR

### GEN-IAL® real-time PCR

- For screening und species identification
- Effective DNA/RNA extraction
- Multiplex real-time kits

### Compact Dry

Dry nutrient media for enumeration of microorganisms



## Hygiene & cleaning

### Compact Dry with wet swab systems, RIDA®STAMP

Nutrient media for detection of microorganisms

### Lumitester PD-30 with LuciPac® Pen

- Sensitive AMP/ATP detection
- Automatic alignment of measured data
- Software based evaluation

### RIDA®CHECK

- Detection of protein residues
- Colorimetric test for rapid cleaning control



## Microbiology/hygiene

## Culture medium systems for colony counting and pathogen detection in food or surface samples

Product	Description	No. of tests/amount	Art. No.
<b>Compact Dry</b>			
<b>Nutrient pads</b>			
Compact Dry AQ	Test plate with nutrient pad for quantitative detection of heterotrophic water bacteria	100 determinations 40 determinations	HS9541 HS9542
Compact Dry CC	Test plate with nutrient pad for detection of total aerobic count in tea products	100 determinations 40 determinations	HS7311 HS7312
Compact Dry CF MicroVal MV0806-003LR; NordVal 35; AOAC-RI 110401	Test plate with nutrient pad for quantitative detection of coliforms	100 determinations 40 determinations	HS8791 HS8792
Compact Dry EC MicroVal MV0806-004LR; MicroVal MV0806-005LR; NordVal 36; AOAC-RI 110402	Test plate with nutrient pad for quantitative detection of <i>E. coli</i> and coliforms	100 determinations 40 determinations	HS8781 HS8782
Compact Dry ETB MicroVal MV0806-002LR; NordVal 34; AOAC-RI 012001	Test plate with nutrient pad for quantitative detection of <i>Enterobacteriaceae</i>	100 determinations 40 determinations	HS9431 HS9432
Compact Dry ETC NordVal 47; AOAC-RI 111902; MicroVal 2014LR48	Test plate with nutrient pad for quantitative detection of Enterococci	100 determinations 40 determinations	HS9461 HS9462
Compact Dry LS	Test plate with nutrient pad for quantitative detection of <i>Listeria</i> spp.	100 determinations 40 determinations	HS8811 HS8812
Compact Dry PA MicroVal 2017LR66	Test plate with nutrient pad for quantitative detection of <i>Pseudomonas aeruginosa</i>	100 determinations 40 determinations	HS9491 HS9492
Compact Dry SL	Test plate with nutrient pad for detection of <i>Salmonella</i>	100 determinations 40 determinations	HS9401 HS9402
Compact Dry TC MicroVal 2007LR01; NordVal 33; AOAC-RI 010401	Test plate with nutrient pad for detection of total aerobic count	100 determinations 40 determinations	HS8771 HS8772
Compact Dry VP	Test plate with nutrient pad for quantitative detection of <i>Vibrio parahaemolyticus</i> and <i>Vibrio</i> spp.	100 determinations 40 determinations	HS8821 HS8822
Compact Dry YM MicroVal RQA2008LR10; NordVal 43; AOAC-RI 100401	Test plate with nutrient pad for quantitative detection of yeast and mold	100 determinations 40 determinations	HS8801 HS8802
Compact Dry YMR MicroVal 2016LR61; NordVal 50	Test plate with nutrient pad for rapid quantitative detection of yeast and mold in 48 - 72 h	100 determinations 40 determinations	HS9801 HS9802
Compact Dry X-BC	Test plate with nutrient pad for quantitative detection of <i>Bacillus cereus</i>	100 determinations 40 determinations	HS9721 HS9722
Compact Dry X-SA MicroVal 2008LR14; NordVal 42; AOAC-RI 081001	Test plate with nutrient pad for quantitative detection of <i>Staphylococcus aureus</i>	100 determinations 40 determinations	HS9621 HS9622
<b>Accessories</b>			
RIDA® 0.9 % NaCl, sterile	1 ml sterile sodium chloride solution	150 pieces (1 ml each)	Z0301
Promedia ST-25	Sampling device (sterile swab in 10 ml sterile PBS buffer)	10 pieces	Z0302
Compact Dry Swab	Sampling set (sterile swabs in 1 ml PBS/peptone buffer)	40 pieces	ZCS1002953
Dilution Rack-PBS	Dilution set for preparation of 10-fold dilution series (9 ml PBS buffer per well) – sterile	128 pieces	ZDP1000888
Dilution Rack-MRD	Dilution set for preparation of 10-fold dilution series (9 ml MRD buffer per well) – sterile	128 pieces	ZDM1000889
Opener for Dilution Rack	For sterile opening of Dilution Rack	1 piece	ZOP1000887
Frame – 100 cm <sup>2</sup>	Frame for definition of 100 cm <sup>2</sup> for swab sampling	5 pieces	ZFR1600000





## Microbiology/hygiene

### Culture medium systems for surface specimen/hygiene monitoring

Product	Description	No. of tests/amount	Art. No.
RIDA®STAMP Coliform	Agar stamp plate for surface monitoring of Coliforms on solid foods and environmental surfaces	50 determinations 25 determinations	HS0411 HS0412
RIDA®STAMP ECC	Agar stamp plate for surface monitoring of <i>E. coli</i> & Coliforms on solid foods and environmental surfaces	50 determinations 25 determinations	HS0431 HS0432
RIDA®STAMP Salmonella	Agar stamp plate for surface monitoring of <i>Salmonella</i> on solid foods and environmental surfaces	25 determinations	HS0392
RIDA®STAMP S. aureus	Agar stamp plate for surface monitoring of <i>Staphylococcus aureus</i> on solid foods and environmental surfaces	25 determinations	HS0462
RIDA®STAMP Total	Agar stamp plate for surface monitoring of total count on solid foods and environmental surfaces	50 determinations 25 determinations	HS0291 HS0292
RIDA®STAMP Total Desi	Agar stamp plate for surface monitoring of total count in case of presence of disinfectants on solid foods and environmental surfaces	50 determinations 25 determinations	HS1831 HS1832
RIDA®STAMP YM-P	Agar stamp plate for surface monitoring of fungi on solid foods and environmental surfaces	50 determinations 25 determinations	HS0371 HS0372





## Microbiology/hygiene

## Pathogens &amp; bacterial toxins

Product	Description	No. of tests/amount	Art. No.
<b>DNA preparation</b>			
SureFast® PREP Bacteria	Preparation of bacteria DNA from enrichments	100 preparations	F1021
SureFast® Speed PREP	Speed preparation of bacteria- and parasites-DNA from enrichment cultures and tissue samples	100 preparations	F1054
SureFast® Mag PREP Food	For DNA extraction of animal and plant DNA from food and feed as well as bacterial DNA from bacterial culture enrichments. For the use in combination with the TANBead Maelstrom™ 8 Autostage (Art. No. ZMAL8) and Maelstrom™ 4800	96 preparations	F1060
<b>Bacillus cereus</b>			
<b>Qualitative real-time PCR</b>			
SureFast® Bacillus cereus group PLUS	Qualitative DNA detection Detection limit: ≤ 5 DNA copies, 1 cfu after enrichment	100 reactions	F5126
SureFast® Emetic Bacillus cereus PLUS	Qualitative DNA detection Detection limit: ≤ 5 DNA copies, 1 cfu after enrichment	100 reactions	F5127
<b>Campylobacter</b>			
<b>Qualitative real-time PCR</b>			
SureFast® Campylobacter PLUS ( <i>C. jejuni</i> , <i>C. lari</i> , <i>C. coli</i> )	Qualitative DNA detection Detection limit: ≤ 5 DNA copies, 1 cfu after enrichment	100 reactions	F5112
<b>Clostridium</b>			
<b>Qualitative real-time PCR</b>			
SureFast® Clostridium botulinum Screening PLUS	Qualitative DNA detection Detection of <i>C. botulinum</i> toxin groups A, B, E, F Detection limit: ≤ 50 DNA copies, 1 cfu after enrichment	100 reactions	F5110
SureFast® Clostridium estertheticum PLUS	Qualitative DNA detection Detection limit: ≤ 5 DNA copies, 1 cfu after enrichment	100 reactions	F5160
SureFast® Clostridium perfringens PLUS	Qualitative DNA detection Detection limit: ≤ 5 DNA copies, 1 cfu after enrichment	100 reactions	F5123
<b>Cronobacter</b>			
<b>Qualitative real-time PCR</b>			
SureFast® Cronobacter PLUS	Qualitative DNA detection Detection limit: ≤ 5 DNA copies, 1 cfu after enrichment	100 reactions	F5114
SureFast® Cronobacter sakazakii PLUS	Qualitative DNA detection Detection limit: ≤ 5 DNA copies, 1 cfu after enrichment	100 reactions	F5115
<b>E. coli</b>			
<b>Qualitative real-time PCR</b>			
SureFast® Escherichia coli PLUS	Qualitative DNA detection Detection limit: ≤ 5 DNA copies, 1 cfu after enrichment	100 reactions	F5157
SureFast® EHEC/EPEC 4plex	Qualitative DNA detection of virulence genes <i>stx1</i> , <i>stx2</i> , <i>eae</i> , <i>ipaH</i> ( <i>E. coli</i> / <i>Shigella</i> spp. differentiation)	100 reactions	F5128
SureFast® STEC Screening PLUS	Qualitative DNA detection of virulence factors <i>stx1</i> and <i>stx2</i> Detection limit: ≤ 5 DNA copies	100 reactions	F5105
SureFast® STEC 4plex ONE	Qualitative detection and differentiation of <i>Escherichia coli</i> virulence factors <i>stx1</i> (subtype a-d), <i>stx2</i> (subtype a-g), <i>eae</i> and the <i>Escherichia coli</i> Serotype O157; Kit includes DNA preparation	100 reactions	F5265
SureFast® Escherichia coli Serotype I 4plex	Qualitative DNA detection of serotypes O26, O103, O121 Detection limit: ≤ 5 DNA copies, 1 cfu after enrichment	100 reactions	F5167
SureFast® Escherichia coli Serotype II 4plex	Qualitative DNA detection of serotypes O45, O111, O145 Detection limit: ≤ 5 DNA copies, 1 cfu after enrichment	100 reactions	F5168
<b>Listeria</b>			
<b>Qualitative real-time PCR</b>			
SureFast® Listeria Screening PLUS	Qualitative DNA detection Detection limit: ≤ 5 DNA copies, 1 cfu after enrichment	100 reactions	F5117
SureFast® Listeria monocytogenes PLUS	Qualitative DNA detection Detection limit: ≤ 5 DNA copies, 1 cfu after enrichment	100 reactions	F5113





## Microbiology/hygiene

### Pathogens & bacterial toxins

Product	Description	No. of tests/amount	Art. No.
<b>Multiplex</b>			
SureFast® Foodborne Pathogens 4plex	Qualitative real-time PCR Qualitative detection of <i>Escherichia coli</i> virulence factors ( <i>stx1</i> [subtype a-d], <i>stx2</i> [subtype a-g] and <i>eae</i> ), <i>Listeria monocytogenes</i> and <i>Salmonella</i> spp. Detection limit: ≤ 5 DNA copies, 1 cfu after enrichment	100 reactions	F5175
<b>Salmonella</b>			
SureFast® PREP Salmonella AOAC-RI 041103	DNA preparation of <i>Salmonella</i>	100 preparations	F1007
<b>Qualitative real-time PCR</b>			
SureFast® Salmonella PLUS AOAC-RI 041103	Qualitative DNA detection Detection limit: ≤ 5 DNA copies, 1 cfu after enrichment	100 reactions	F5111
SureFast® Salmonella Species/Enteritidis/Typhimurium 4plex	Qualitative detection of <i>Salmonella</i> species <i>S. Enteritidis</i> and <i>S. Typhimurium</i> Detection limit: ≤ 5 DNA copies, 1 cfu after enrichment	100 reactions	F5166
<b>Qualitative real-time PCR and DNA preparation</b>			
SureFast® Salmonella ONE MicroVal (2014LR43; ISO 16140-2) AOAC-RI (081803)	Qualitative DNA detection Detection limit: ≤ 5 DNA copies, 1 cfu after enrichment Kit includes DNA preparation	100 reactions/ 100 preparations	F5211
<b>Staphylococcus</b>			
RIDASCREEN® SET A, B, C, D, E	Enzyme immunoassay for identification of staphylococcus enterotoxins A, B, C, D and E in food and bacterial cultures Detection limit: 0.25 ng/ml toxin (0.375 ng/g)	12 determinations Incubation time: 2 h 45 min	R4101
RIDASCREEN® SET Total	Enzyme immunoassay for combined detection of staphylococcus enterotoxins (A - E) in food and bacterial cultures Detection limit: 0.25 ng/ml toxin (0.375 ng/g)	96 determinations Incubation time: 2 h 45 min	R4105
<b>Qualitative real-time PCR</b>			
SureFast® Staphylococcus aureus PLUS	Qualitative DNA detection Detection limit: ≤ 5 DNA copies, 1 cfu after enrichment	100 reactions	F5116
<b>MRSA</b>			
SureFast® MRSA 4plex	FAM: <i>SCCmec/orfX</i> ROX: <i>Staphylococcus aureus</i> Cy5: <i>mecA/mecC</i>	100 reactions	F7117
<b>Vibrio</b>			
SureFast® Vibrio 4plex	Qualitative DNA detection Detection limit: ≤ 5 DNA copies, 1 cfu after enrichment ( <i>V. cholerae</i> , <i>V. parahaemolyticus</i> , <i>V. vulnificus</i> )	100 reactions	F5161
<b>Yersinia</b>			
SureFast® Yersinia 3plex	Qualitative DNA detection and differentiation of specific <i>ail</i> gene DNA sequences of <i>Yersinia pseudotuberculosis</i> and <i>Yersinia enterocolitica</i> Detection limit: ≤ 5 DNA copies	100 reactions	F5132





## Microbiology/hygiene

### Viruses

Product	Description	No. of tests/amount	Art. No.
<b>DNA/RNA preparation</b>			
SureFast® PREP DNA/RNA Virus	DNA/RNA preparation of viruses	100 preparations	F1051
SureFast® Mag PREP Pathogen	For DNA extraction of RNA/ DNA from viruses. For the use in combination with the TANBead Maelstrom™ 8 Autostage (Art. No. ZMAL8) und Maelstrom™ 4800 (Art. No. ZMAL48)	96 preparations	F1062
SureFast® Speed Prep Virus	Extraction of virus RNA from swab samples	100 preparations	F1056
<b>Real-time reverse transcriptase PCR (qualitative detection)</b>			
SureFast® Norovirus/Hepatitis A 3plex	Qualitative detection of Norovirus and Hepatitis A Detection limit: ≤ 25 RNA copies	100 reactions	F7124
SureFast® Hepatitis A PLUS	Qualitative detection of Hepatitis A Detection limit: ≤ 25 RNA copies	100 reactions	F7125
SureFast® Hepatitis E PLUS	Qualitative detection of Hepatitis E Detection limit: ≤ 25 RNA copies	100 reactions	F7142
SureFast® SARS-CoV-2 PLUS	Qualitative detection of novel coronavirus (SARS-CoV-2) RNA Detection limit: ≤ 25 RNA copies	100 reactions	F7110



### Water analysis

<b>DNA preparation</b>			
SureFast® PREP Aqua	DNA preparation of bacterial cells from water samples	100 preparations	F1023
<b>Legionella</b>			
<b>Qualitative real-time PCR</b>			
SureFast® Legionella Screen PLUS	Qualitative DNA detection of <i>Legionella</i> spp. Detection limit: ≤ 5 DNA copies	100 reactions	F5502
SureFast® Legionella pneumophila PLUS	Qualitative DNA detection of <i>Legionella pneumophila</i> Detection limit: ≤ 5 DNA copies	100 reactions	F5501
SureFast® Legionella 3plex	Qualitative DNA detection of <i>Legionella</i> spp. and <i>Legionella pneumophila</i> Detection limit: ≤ 5 DNA copies	100 reactions	F5505
<b>Qualitative real-time PCR</b>			
SureFast® Parasitic Water Panel 4plex	Qualitative DNA detection of <i>Giardia intestinalis</i> , <i>Entamoeba histolytica</i> und <i>Cryptosporidium</i> spp. Detection limit: ≤ 5 DNA copies	100 reactions	F5506
SureFast® Enterobacteriaceae Screening PLUS	Qualitative DNA detection of <i>Enterobacteriaceae</i> Detection limit: ≤ 5 DNA copies	100 reactions	F5507
SureFast® Pseudomonas aeruginosa PLUS	Qualitative DNA detection of <i>Pseudomonas aeruginosa</i> , Detection limit: ≤ 5 DNA copies	100 reactions	F5503
<b>AMP/ATP detection</b>			
<b>Bioluminescence</b>			
LuciPac® Pen AQUA	Test system for hygiene control in liquid samples (based on detection of AMP/ATP) Reaction tubes with integrated sample stick for use with Lumitester PD-30	100 reactions	ZLA1002672
<b>Accessories</b>			
RIDA® Clean Extract	Sample preparation kit for lubricants and paints to be used together with LuciPac® Pen AQUA	20 reactions	ZLPP1002673



\* Find more products for microbiological water analysis on page 80 under “Culture medium systems for colony counting and pathogen detection”.





## Beverage analysis

Product	Description	No. of tests/amount	Art. No.
<b>Beer</b>			
<b>DNA-preparation</b>			
GEN-IAL® Simplex® Easy DNA	DNA preparation of beverage samples	100 preparations	Q001
GEN-IAL® QuickGEN® Sample Preparation Centrifugation	DNA preparation of beverage samples, centrifugation	100 preparations	Q002
GEN-IAL® QuickGEN® Sample Preparation Filtration	DNA preparation of beverage samples, filtration	100 preparations	Q004
GEN-IAL® QuickGEN® Yeast Sample Preparation Centrifugation	DNA preparation of beverage samples mainly containing yeast	100 preparations	Q005
GEN-IAL® PolyBIND®	Polymer for sampling	50 preparations	Q008
<b>Qualitative multiplex real-time PCR</b>			
GEN-IAL® QuickGEN® P1 Screening high	DNA screening and differentiation of beer spoiling bacteria and yeasts ( <i>Lactobacillus</i> , <i>Pediococcus/Megasphaera</i> , <i>Pectinatus</i> /yeast)	48 reactions	Q021
GEN-IAL® QuickGEN® P1 Screening low	DNA screening and differentiation of beer spoiling bacteria and yeasts ( <i>Lactobacillus</i> , <i>Pediococcus/Megasphaera</i> , <i>Pectinatus</i> /yeast)	48 reactions	Q022
GEN-IAL® QuickGEN® P1 Screening white	DNA screening and differentiation of beer spoiling bacteria and yeasts ( <i>Lactobacillus</i> , <i>Pediococcus/Megasphaera</i> , <i>Pectinatus</i> /yeast)	48 reactions	Q023
GEN-IAL® QuickGEN® P1 Screening low MG	DNA screening and differentiation of beer spoiling bacteria and yeasts ( <i>Lactobacillus</i> , <i>Pediococcus/Megasphaera</i> , <i>Pectinatus</i> /yeast)	48 reactions	Q024
GEN-IAL® QuickGEN® P1 Screening	DNA screening and differentiation of beer spoiling bacteria and yeasts ( <i>Lactobacillus</i> , <i>Pediococcus/Megasphaera</i> , <i>Pectinatus</i> /yeast)	50 reactions	Q025
GEN-IAL® QuickGEN® P1 Screening without yeast high	DNA screening and differentiation of beer spoiling bacteria ( <i>Lactobacillus</i> , <i>Pediococcus/Megasphaera</i> , <i>Pectinatus</i> )	48 reactions	Q031
GEN-IAL® QuickGEN® P1 Screening without yeast low	DNA screening and differentiation of beer spoiling bacteria ( <i>Lactobacillus</i> , <i>Pediococcus/Megasphaera</i> , <i>Pectinatus</i> )	48 reactions	Q032
GEN-IAL® QuickGEN® P1 Screening without yeast white	DNA screening and differentiation of beer spoiling bacteria ( <i>Lactobacillus</i> , <i>Pediococcus/Megasphaera</i> , <i>Pectinatus</i> )	48 reactions	Q033
GEN-IAL® QuickGEN® P1 Screening without yeast	DNA screening and differentiation of beer spoiling bacteria ( <i>Lactobacillus</i> , <i>Pediococcus/Megasphaera</i> , <i>Pectinatus</i> )	50 reactions	Q035
GEN-IAL® QuickGEN® P1 and <i>S. diastaticus</i> Screening high	DNA screening and differentiation of beer spoiling bacteria ( <i>Lactobacillus</i> , <i>Pediococcus/Megasphaera</i> , <i>Pectinatus</i> ) and <i>Saccharomyces cerevisiae</i> var. <i>diastaticus</i>	48 reactions	Q041
GEN-IAL® QuickGEN® P1 and <i>S. diastaticus</i> Screening low	DNA screening and differentiation of beer spoiling bacteria ( <i>Lactobacillus</i> , <i>Pediococcus/Megasphaera</i> , <i>Pectinatus</i> ) and <i>Saccharomyces cerevisiae</i> var. <i>diastaticus</i>	48 reactions	Q042
GEN-IAL® QuickGEN® P1 and <i>S. diastaticus</i> Screening white	DNA screening and differentiation of beer spoiling bacteria ( <i>Lactobacillus</i> , <i>Pediococcus/Megasphaera</i> , <i>Pectinatus</i> ) and <i>Saccharomyces cerevisiae</i> var. <i>diastaticus</i>	48 reactions	Q043
GEN-IAL® QuickGEN® P1 and <i>S. diastaticus</i> Screening low MG	DNA screening and differentiation of beer spoiling bacteria ( <i>Lactobacillus</i> , <i>Pediococcus/Megasphaera</i> , <i>Pectinatus</i> ) and <i>Saccharomyces cerevisiae</i> var. <i>diastaticus</i>	48 reactions	Q044
GEN-IAL® QuickGEN® P1 and <i>S. diastaticus</i> Screening	DNA screening and differentiation of beer spoiling bacteria ( <i>Lactobacillus</i> , <i>Pediococcus/Megasphaera</i> , <i>Pectinatus</i> ) and <i>Saccharomyces cerevisiae</i> var. <i>diastaticus</i>	50 reactions	Q045

\* QuickGEN kits deliver a rapid, easy one-step DNA lysis and amplification method. Pre-enriched samples as well as centrifuged or filtrated samples may be used with the kits with order no. Q002 or Q004 (Q005) and subsequent QuickGEN detection kits. Precoated strips enable less pipetting steps. Different kits are suitable for different real-time thermocyclers:

- Q\*\*1 High profile: ABI 7500, Agilent MX3005P
- Q\*\*2 Low profile: MyGo Pro (2- and 3plex kits), ABI QuantStudio 5
- Q\*\*3 White strips: Bio-Rad CFX96, LightCycler® 480
- Q\*\*4 Low profile: MyGoPro (4plex kits)
- Q\*\*5 Liquid reagents without precoated strips

Other block cyclers may be suitable as well. Information is available on request. Further parameters/species detection kits are available on request.





## Microbiology/hygiene

## Beverage analysis



Product	Description	No. of tests/amount	Art. No.
<b>Beer</b>			
GEN-IAL® QuickGEN* P1 Screening and Hop resistance high	Qualitative multiplex real-time PCR DNA screening and differentiation of beer spoiling bacteria and hop resistance genes	48 reactions	Q051
GEN-IAL® QuickGEN* P1 Screening and Hop resistance low	DNA screening and differentiation of beer spoiling bacteria and hop resistance genes	48 reactions	Q052
GEN-IAL® QuickGEN* P1 Screening and Hop resistance white	DNA screening and differentiation of beer spoiling bacteria and hop resistance genes	48 reactions	Q053
GEN-IAL® QuickGEN* P1 Screening and Hop resistance low MG	DNA screening and differentiation of beer spoiling bacteria and hop resistance genes	48 reactions	Q054
GEN-IAL® QuickGEN* P1 Screening and Hop resistance	DNA screening and differentiation of beer spoiling bacteria and hop resistance genes	50 reactions	Q055
GEN-IAL® QuickGEN* Beer yeast and bacteria differentiation high	Multiplex detection and identification of beverage spoiling bacteria and yeasts	96 reactions/24 samples	Q071
GEN-IAL® QuickGEN* Beer yeast and bacteria differentiation low	Multiplex detection and identification of beverage spoiling bacteria and yeasts	96 reactions/24 samples	Q072
GEN-IAL® QuickGEN* Beer yeast and bacteria differentiation white	Multiplex detection and identification of beverage spoiling bacteria and yeasts	96 reactions/24 samples	Q073
GEN-IAL® QuickGEN* Beer Differentiation high	Multiplex detection (30 species) and identification (19 species) of relevant beer spoilers	96 reactions/12 samples	Q081
GEN-IAL® QuickGEN* Beer Differentiation low	Multiplex detection (30 species) and identification (19 species) of relevant beer spoilers	96 reactions/12 samples	Q082
GEN-IAL® QuickGEN* Beer Differentiation white	Multiplex detection (30 species) and identification (19 species) of relevant beer spoilers	96 reactions/12 samples	Q083
GEN-IAL® QuickGEN* Biofilm	Specific DNA detection of <i>Lactococcus lactis</i> , <i>Leuconostoc mesenteroides</i> and <i>Wickerhamomyces anomalus</i>	50 reactions	Q095
GEN-IAL® QuickGEN* Hop resistance	Specific DNA detection of hop resistance genes <i>horA</i> and <i>horC/hitA</i> and <i>orf5</i>	50 reactions	Q105
GEN-IAL® QuickGEN* Pectinatus/ Megasphaera differentiation low	Specific DNA detection and differentiation of <i>Pectinatus</i> and <i>Megasphaera</i>	48 reactions	Q112
GEN-IAL® QuickGEN* Enterobacteriaceae spp.	DNA detection of <i>Enterobacteriaceae</i> spp.	50 reactions	Q145
GEN-IAL® QuickGEN* Yeast Top fermented high	Specific DNA detection of top fermented yeast	48 reactions	Q151
GEN-IAL® QuickGEN* Yeast Top fermented low	Specific DNA detection of top fermented yeast	48 reactions	Q152
GEN-IAL® QuickGEN* Yeast Top fermented white	Specific DNA detection of top fermented yeast	48 reactions	Q153
GEN-IAL® QuickGEN* Yeast Bottom fermented high	Specific DNA detection of bottom fermented yeast	48 reactions	Q161
GEN-IAL® QuickGEN* Yeast Bottom fermented low	Specific DNA detection of bottom fermented yeast	48 reactions	Q162
GEN-IAL® QuickGEN* Yeast Bottom fermented white	Specific DNA detection of bottom fermented yeast	48 reactions	Q163
GEN-IAL® QuickGEN* Yeast Wickerhamomyces anomalus	Specific DNA detection of <i>Wickerhamomyces anomalus</i> ( <i>Pichia anomala</i> )	50 reactions	Q175
GEN-IAL® QuickGEN* Yeast Saccharomyces diastaticus low	Specific DNA detection of <i>S. cerevisiae</i> var. <i>diastaticus</i>	48 reactions	Q182

\* QuickGEN kits deliver a rapid, easy one-step DNA lysis and amplification method. Pre-enriched samples as well as centrifuged or filtrated samples may be used with Q002, Q004 or Q005 and subsequent QuickGEN detection kits.



## Microbiology/hygiene

### Beverage analysis

Product	Description	No. of tests/amount	Art. No.
<b>Wine</b>			
<b>DNA preparation</b>			
GEN-IAL® Simplex® Easy Wine	DNA preparation of wine samples	100 preparations	Q300
GEN-IAL® Simplex® Easy Wine-Washing Solution	Additional washing solution for Q300	43 ml	Q301
<b>Qualitative multiplex real-time PCR</b>			
GEN-IAL® QuickGEN® Wine Screening high	DNA screening and differentiation of wine spoilage bacteria and yeasts: <i>Lactobacillus</i> ; <i>Pediococcus</i> ; <i>Oenococcus oeni</i> /acetic acid bacteria/yeast	48 reactions	Q321
GEN-IAL® QuickGEN® Wine Screening low	DNA screening and differentiation of wine spoilage bacteria and yeasts: <i>Lactobacillus</i> ; <i>Pediococcus</i> ; <i>Oenococcus oeni</i> /acetic acid bacteria/yeast	48 reactions	Q322
GEN-IAL® QuickGEN® Wine Screening white	DNA screening and differentiation of wine spoilage bacteria and yeasts: <i>Lactobacillus</i> ; <i>Pediococcus</i> ; <i>Oenococcus oeni</i> /acetic acid bacteria/yeast	48 reactions	Q323
GEN-IAL® QuickGEN® Wine Screening low MG	DNA screening and differentiation of wine spoilage bacteria and yeasts: <i>Lactobacillus</i> ; <i>Pediococcus</i> ; <i>Oenococcus oeni</i> /acetic acid bacteria/yeast	48 reactions	Q324
GEN-IAL® QuickGEN® Wine Screening without yeast high	DNA screening and differentiation of wine spoilage bacteria and yeasts: <i>Lactobacillus</i> ; <i>Pediococcus</i> / <i>Oenococcus oeni</i> /acetic acid bacteria	48 reactions	Q331
GEN-IAL® QuickGEN® Wine Screening without yeast low	DNA screening and differentiation of wine spoilage bacteria and yeasts: <i>Lactobacillus</i> ; <i>Pediococcus</i> / <i>Oenococcus oeni</i> /acetic acid bacteria	48 reactions	Q332
GEN-IAL® QuickGEN® Wine Screening without yeast white	DNA screening and differentiation of wine spoilage bacteria and yeasts: <i>Lactobacillus</i> ; <i>Pediococcus</i> / <i>Oenococcus oeni</i> /acetic acid bacteria	48 reactions	Q333
GEN-IAL® QuickGEN® Wine Screening without yeast low MG	DNA screening and differentiation of wine spoilage bacteria and yeasts: <i>Lactobacillus</i> ; <i>Pediococcus</i> / <i>Oenococcus oeni</i> /acetic acid bacteria	48 reactions	Q334
GEN-IAL® Biogenic amines	Specific DNA detection of bacteria forming biogenic amines	50 reactions	Q345
GEN-IAL® QuickGEN® Oenococcus oeni high	Specific DNA detection of <i>Oenococcus oeni</i>	48 reactions	Q351
GEN-IAL® QuickGEN® Oenococcus oeni low	Specific DNA detection of <i>Oenococcus oeni</i>	48 reactions	Q352
GEN-IAL® QuickGEN® Oenococcus oeni white	Specific DNA detection of <i>Oenococcus oeni</i>	48 reactions	Q353
GEN-IAL® QuickGEN® Oenococcus oeni	Specific DNA detection of <i>Oenococcus oeni</i>	50 reactions	Q355
GEN-IAL® Dekkera bruxellensis Standard DNA	DNA standards for <i>Dekkera bruxellensis</i> quantification	200.000 cfu	Q360
GEN-IAL® QuickGEN® Yeast Dekkera bruxellensis quantitative high	Specific DNA detection of <i>Dekkera bruxellensis</i>	48 reactions	Q371
GEN-IAL® QuickGEN® Yeast Dekkera bruxellensis quantitative low	Specific DNA detection of <i>Dekkera bruxellensis</i>	48 reactions	Q372
GEN-IAL® QuickGEN® Yeast Dekkera bruxellensis quantitative white	Specific DNA detection of <i>Dekkera bruxellensis</i>	48 reactions	Q373
GEN-IAL® Dekkera bruxellensis quantitative FAM/ROX	Specific DNA detection of <i>Dekkera bruxellensis</i> FAM/ROX	50 reactions	Q385
GEN-IAL® Dekkera bruxellensis quantitative FAM/HEX	Specific DNA detection of <i>Dekkera bruxellensis</i> FAM/HEX	50 reactions	Q395

\* QuickGEN kits deliver a rapid, easy one-step DNA lysis and amplification method. Pre-enriched samples as well as centrifuged or filtrated samples may be used with Q002, Q004 or Q005 and subsequent QuickGEN detection kits.



## Microbiology/hygiene

## Beverage analysis

Product	Description	No. of tests/amount	Art. No.
<b>Qualitative multiplex real-time PCR</b>			
GEN-IAL® QuickGEN® Acetic acid bacteria high	Specific DNA detection of acetic acid bacteria	48 reactions	Q511
GEN-IAL® QuickGEN® Acetic acid bacteria low	Specific DNA detection of acetic acid bacteria	48 reactions	Q512
GEN-IAL® QuickGEN® Acetic acid bacteria white	Specific DNA detection of acetic acid bacteria	48 reactions	Q513
GEN-IAL® QuickGEN® Acetic acid bacteria	Specific DNA detection of acetic acid bacteria	50 reactions	Q515
GEN-IAL® QuickGEN® Wild yeast 1 low	DNA screening and differentiation of wild yeast	48 reactions	Q522
GEN-IAL® QuickGEN® Wild yeast 1	DNA screening and differentiation of wild yeast	50 reactions	Q525
GEN-IAL® QuickGEN® Wild yeast 2 low	DNA screening and differentiation of wild yeast	48 reactions	Q532
GEN-IAL® QuickGEN® Wild yeast 2	DNA screening and differentiation of wild yeast	50 reactions	Q535
GEN-IAL® QuickGEN® Yeast Differentiation high	DNA screening and differentiation of 12 yeasts	96 reactions/12 samples	Q541
GEN-IAL® QuickGEN® Yeast Differentiation low	DNA screening and differentiation of 12 yeasts	96 reactions/12 samples	Q542
GEN-IAL® QuickGEN® Yeast Differentiation white	DNA screening and differentiation of 12 yeasts	96 reactions/12 samples	Q543
GEN-IAL® QuickGEN® Yeast Dekkera spp. high	Specific DNA detection of <i>Dekkera</i> spp.	48 reactions	Q551
GEN-IAL® QuickGEN® Yeast Dekkera spp. low	Specific DNA detection of <i>Dekkera</i> spp.	48 reactions	Q552
GEN-IAL® QuickGEN® Yeast Dekkera spp. white	Specific DNA detection of <i>Dekkera</i> spp.	48 reactions	Q553
GEN-IAL® QuickGEN® Yeast Dekkera spp.	Specific DNA detection of <i>Dekkera</i> spp.	50 reactions	Q555
GEN-IAL® QuickGEN® Yeast <i>Zygosaccharomyces bailii</i> high	Specific DNA detection of <i>Zygosaccharomyces bailii</i>	48 reactions	Q561
GEN-IAL® QuickGEN® Yeast <i>Zygosaccharomyces bailii</i> low	Specific DNA detection of <i>Zygosaccharomyces bailii</i>	48 reactions	Q562
GEN-IAL® QuickGEN® Yeast <i>Zygosaccharomyces bailii</i> white	Specific DNA detection of <i>Zygosaccharomyces bailii</i>	48 reactions	Q563
<b>Juice</b>			
<b>DNA preparation</b>			
GEN-IAL® Simplex® Easy® Spin DNA	<i>Alicyclobacillus</i> DNA extraction from fruit or vegetable juices or concentrates	50 preparations	Q701
<b>Qualitative multiplex real-time PCR</b>			
GEN-IAL® QuickGEN® <i>Alicyclobacillus</i> differentiation	DNA Screening of <i>Alicyclobacillus</i> spp., <i>A. acidocaldarius</i> and <i>A. acidoterrestris</i> in fruit juices or concentrates	48 reactions	Q724
<b>Accessories</b>			
GEN-IAL® Colour Compensation kit	Color compensation kit for multiplex assays	5 reactions	Q800

\* QuickGEN kits deliver a rapid, easy one-step DNA lysis and amplification method. Pre-enriched samples as well as centrifuged or filtrated samples may be used with Q002, Q004 or Q005 and subsequent QuickGEN detection kits.



## Microbiology/hygiene

### Test systems for cleaning control

Product	Description	No. of tests/amount	Art. No.
<b>AMP/ATP detection</b>			
<b>Bioluminescence</b>			
LuciPac® Pen	Test system for hygiene control on surfaces (based on detection of AMP/ATP) Reaction tubes with integrated swab for use with Lumitester PD-30	100 determinations	ZLP1002667
<b>Protein tests</b>			
<b>Swab tests</b>			
RIDA®CHECK	Colorimetric test, ready-to-use swabs for the detection of protein residues on surfaces	100 determinations	R1091
		40 determinations	R1092



## Microbiology/hygiene

	ELISA	Dry medium plates	DNA prep. + real-time PCR	Direct stamp plates	Swab tests
	RIDASCREEN®	Compact Dry	SureFast® / GEN-IAL®	RIDA®STAMP	RIDA®CHECK + LUCIPAC PEN
<b>Bacterial toxins</b>					
Staphylococcal enterotoxin (Toxins A - E)	•				
Staphylococcal enterotoxin (Total)	•**				
<b>Pathogens</b>					
<i>Bacillus cereus</i> spp.		•	•		
emetic <i>Bacillus cereus</i>			•		
<i>Campylobacter</i>			•		
<i>Clostridium botulinum</i> , <i>C. estertheticum</i> , <i>C. perfringens</i>			•		
<i>Cronobacter</i> spp., <i>Cronobacter sakazakii</i>			•		
EHEC/EPEC/STEC Screening			•		
<i>Escherichia coli eae</i> gene			•		
<i>Legionella</i> spp., <i>Legionella pneumophila</i>			•		
<i>Listeria monocytogenes</i>			•		
MRSA			•		
Parasitic Water Panel 4plex			•		
<i>Pseudomonas aeruginosa</i>		•*	•		
<i>Salmonella</i>		•	•*	•	
<i>Salmonella</i> Serotype enteritidis & typhimurium			•		
<i>Staphylococcus aureus</i>		•*	•	•	
<i>Vibrio</i> spp., <i>V. parahaemolyticus</i> , <i>V. cholerae</i> , <i>V. vulnificus</i>		•	•		
<i>Yersinia enterocolitica</i>			•		
<b>Indicator organism</b>					
Coliform bacteria		•*		•	
<i>Enterobacteriaceae</i>		•*	•		
<i>Enterococcus</i>		•*			
<i>Escherichia coli</i>		•*	•	•	
<i>Listeria</i> spp.		•	•		
<i>Staphylococcus aureus</i>		•*	•	•	
Total count		•*		•	
Total count in tea products		•			
Total count in water samples		•			
<i>Vibrio</i> spp.		•	•		
Yeasts & Molds		•*		•	
<b>Virus</b>					
Hepatitis A			•		
Hepatitis E			•		
Norovirus I & II			•		
SARS-CoV-2			•		
<b>Beverage spoilers</b>					
Bacteria screening & Bacteria species			•		
Yeasts screening & Yeast species			•		
Biofilm formation species			•		
<b>Rapid hygiene monitoring</b>					
AMP/ATP					•
Protein Test					•
Accessories	•	•			•

\* Officially validated test (AFNOR/MICROVAL/AOAC-RI)

\*\* Officially validated by the European Reference Laboratory for Coagulase positive Staphylococci





# Equipment and accessories

In laboratories equipment and machines are now routinely used to standardise analysis. Each analysis has specific needs and requirements which necessitates different accessories. This is where the team of technicians from R-Biopharm comes in.

## What is the right equipment required for each test?

We develop matching applications for an even easier, faster and more efficient performance and analysis. Whether an automated processing of an ELISA by a fully automated analyzer or a portable analyser for lateral flow test.

With the RIDA®SMART APP the quantitative evaluation of rapid tests is possible for the demand on-site. Our specialists improve and update these systems and devices continuously. That's how we can offer you the best support with state of the art technologies for your laboratory or on-site testing.

The range of equipment and software covers the full portfolio and requirements of R-Biopharm products.

The requirements for a high or low sample throughput in the laboratory will be observed: starting from optimal sample preparation, performance of test procedures, through analysing and evaluation for manually or fully automated applications for all products, their specific needs are considered.

**Everything for your analysis and performance just from one supplier.**

## RIDA®SMART APP

### Test evaluation

Smartphone application for the quantitative analysis of lateral flow tests







### RIDA® ABSORBANCE 96

#### Absorbance reader

Innovative microtiter plate photometer  
including RIDASOFT® Win.NET software



### ThunderBolt®

#### ELISA analyzer

Fully automated device for ELISA  
analysis in microtiter plate format



### TANBead Maelstrom™ 8 Autostage

Automated nucleic acid extraction system



### RIDA® CYCLER

#### Multiplex analysis

Real-time PCR thermocycler



## Equipment/software/accessories

### Equipment

Product	Description	No. of tests/amount	Art. No.
<b>ELISA</b>	<b>Photometer</b>		
RIDA®ABSORBANCE 96	Microtiter plate photometer with RIDASOFT® Win.NET	1	ZRA96FF
<b>ELISA</b>	<b>Automates</b>		
ThunderBolt®	2-microtiter plate analyser	1	ZTB
Bolt™	1-microtiter plate analyser	1	ZBOLT
DYNEX DS2®	2-microtiter plate analyser	1	Z62000
<b>Mycotoxin analysis</b>	<b>HPLC automate</b>		
CHRONECT Symbiosis RIDA®CREST	CHRONECT Symbiosis RIDA® CREST Dedicated UHPLC system with online capability for the use of IMMUNOPREP® ONLINE Cartridges from R-Biopharm	1	ZRIDACREST-WS-0511
CHRONECT Symbiosis RIDA®CREST	CHRONECT Symbiosis RIDA® CREST Dedicated UHPLC system with online capability for the use of IMMUNOPREP® ONLINE Cartridges from R-Biopharm, with Mistral Cool CS HPLC	1	ZRIDACREST-WS-0512
<b>Enzymatic analysis</b>	<b>Autoanalyzer</b>		
RIDA®CUBE SCAN340/546 Analyser set	Automatic analyser only for RIDA®CUBE test kits	1 set	ZRCS0546
RIDA®CUBE SCAN340/580 Analyser set	Automatic analyser only for RIDA®CUBE test kits	1 set	ZRCS0580
RIDA®CUBE SCAN Tablet PC	Separate tablet for replacement	1	ZRCT0500
RIDA®CUBE SCAN Quality control tool	Verification tool for use with RIDA®CUBE SCAN	1 set	ZRCSSZ0420
<b>qPCR</b>	<b>qPCR thermocycler</b>		
RIDA®CYCLER	qPCR thermocycler. 4 channels, incl. 1 box with reaction tubes	1	ZRCYCLER
RIDA®CYCLER-MIC-Tubes	Box with 960 reactions tubes and caps	1	ZRC-MIC-TUBES
RIDA®CYCLER TVS	Temperature verification system	1	ZRCYCLER-TVS
<b>Mycotoxin lateral flow tests</b>	<b>RIDA®QUICK</b>		
RIDA®SMART APP STAND PIXEL XL	3D printed smartphone stand for GOOGLE Pixel XL	1	ZRSAS-PIXELXL
RIDA®SMART APP STAND XIAOMI REDMI NOTE7	3D printed smartphone stand for XIAOMI REDMI NOTE7	1	ZRSAS-REDMI7
RIDA®SMART APP STAND XIAOMI REDMI 9S	3D printed smartphone stand for XIAOMI REDMI 9S	1	ZRSAS-REDMI9S
RIDA®SMART APP STAND GOOGLE NEXUS6P	3D printed smartphone stand for GOOGLE NEXUS6P	1	ZRSAS-NEXUS6P
RIDA®SMART APP STAND GOOGLE NEXUS6	3D printed smartphone stand for GOOGLE NEXUS6	1	ZRSASNEXUS6
RIDA®SMART APP STAND MOTO G6	3D printed smartphone stand for Lenovo MOTO G6	1	ZRSAS-MOTO G6
RIDA®SMART APP Mycotoxin Analyser SET	Analyser set: 1 x Smartphone, 1 x Smartphone stand and 1 x RIDA®SMART APP voucher	1 set	ZRSAM1000-SET
RIDA®SMART BOX	Lateral flow reader for analysis of RIDA®QUICK parameters (works only with RIDA®SMART APP software licence and GOOGLE Android smartphone)	1	ZRSA-SB Coming soon



## Equipment/software/accessories

### Equipment

Product	Description	No. of tests/amount	Art. No.
<b>Automated DNA/RNA Extraction</b>			
TANBead Maelstrom™ 8 Autostage	Automated nucleic acid extraction system for up to 8 samples/run (Autostage & channel handler)	1	ZMAL8
TANBead Maelstrom™ 8 Autostage Hood	Plexiglass cover for the TANBead Maelstrom™ 8 Autostage device	1	ZMAL8-Hood
TANBead Spin Tips	Box with spin tips for the TANBead Maelstrom™ 8 channel handler	96/box	ZMAL8-Tips
TANBead Maelstrom™ 4800	Automated nucleic acid extraction system for up to 48 samples	1	ZMAL48
<b>Microbiology</b>			
CULTURA® Mini Incubator	Incubator for incubations at 30 - 45 °C (Compact Dry, RIDA®STAMP, microbiological MTP format Vitamin analysis etc.)	1	ZC7140651
Lumitester PD-30	Luminometer for AMP/ATP measurement with LuciPac® Pen and LuciPac® Pen AQUA	1	ZLT1402653
Lumitester PD-20/PD-30 Control Kit	Positive control lamp with charger and negative control tubes for functional testing of Lumitester PD-20 and Lumitester PD-30 devices	1	ZLC1002657
<b>Pipettes</b>			
R-Biopharm FP 200	Pipette 200 µl	1 unit	Z0003
R-Biopharm FP 500	Pipette 500 µl	1 unit	Z0004
R-Biopharm FP 50	Pipette 50 µl	1 unit	Z0006
R-Biopharm FP 100	Pipette 100 µl	1 unit	Z0007
R-Biopharm FP 1000	Pipette 1000 µl	1 unit	Z0008
R-Biopharm FP 150	Pipette 150 µl	1 unit	Z0009
<b>Pipettes for RIDA®QUICK mycotoxin analysis</b>			
PE-Pipettes	1 ml pipette for RIDA®QUICK tests	100	Z0005
PP-Test Tubes	50 ml test tubes for RIDA®QUICK tests	25	Z210261

### Software

<b>ELISA</b>			
RIDASOFT® Win.NET Food & Feed	Software for measurement, evaluation and documentation of RIDASCREEN® ELISAs and other R-Biopharm distributed products	1 unit	Z9996FF
<b>Mycotoxins lateral flow tests</b>			
RIDA®SMART APP*	Software application for the quantification of RIDA®QUICK RQS mycotoxin lateral flow tests	1 voucher	ZRSAM1000

\* Applicable only in conjunction with certain smartphones recommended by R-Biopharm.



## Equipment/software/accessories

### Accessories

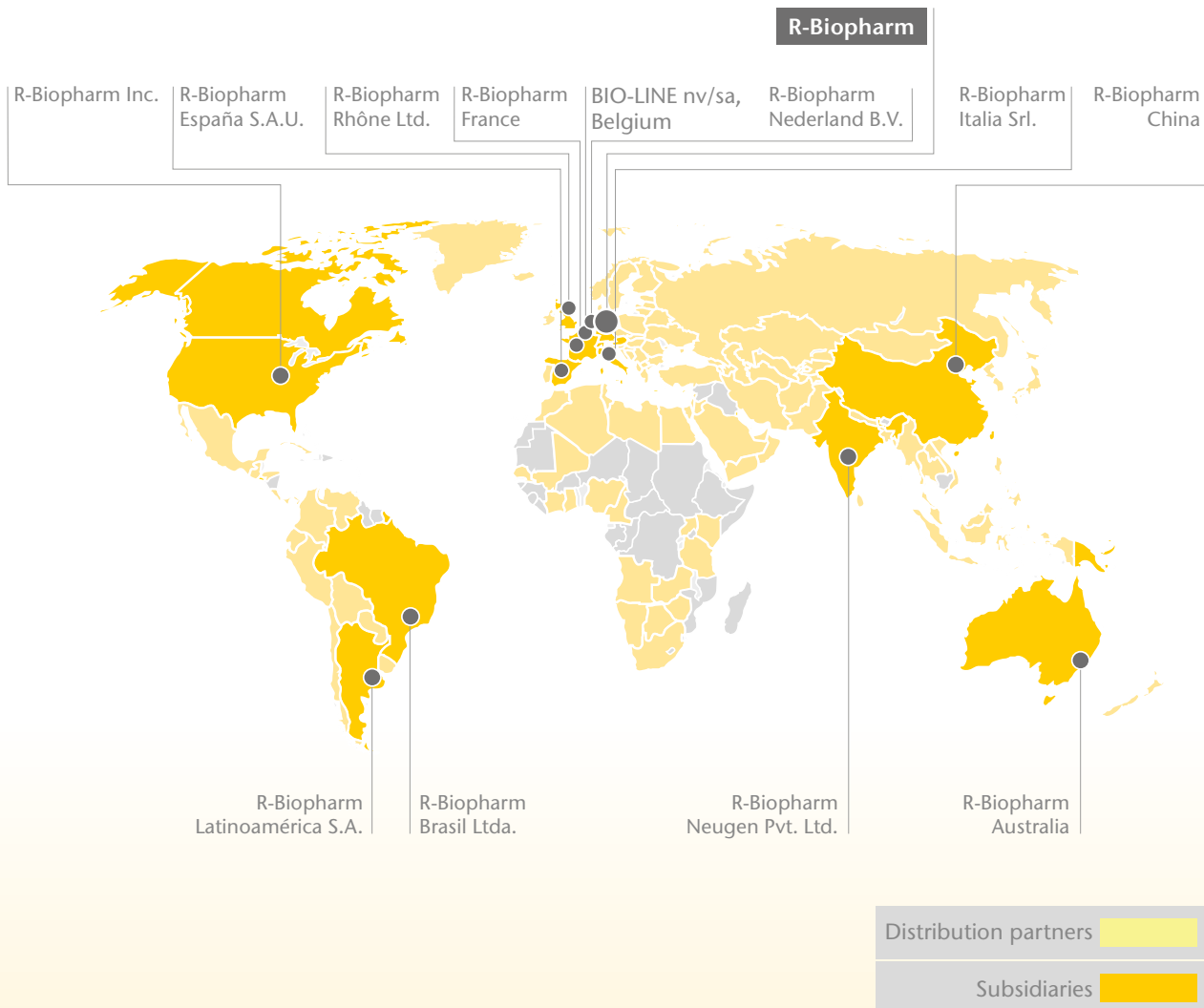
Product	Description	No. of tests/amount	Art. No.
<b>Mycotoxin analysis (HPLC)</b>			
<b>Immunoaffinity columns</b>			
PBS-Tablets	Phosphate buffered saline tablets	100 (suitable for 10 L)	RBRRP202
Immunoaffinity Column Rack	Durable brass and PTFE rack allowing 6 samples to be processed at one time using Immunoaffinity columns	1 unit	RBRCR1
Immunoaffinity Column Accessory Pack	Glass barrels, syringes and adapters for use with all formats of RBR Immunoaffinity columns	10 each	RBAP01
<b>Aflatoxin analysis</b>			
KOBRA® CELL	Electrochemical cell for derivatisation of aflatoxins B1 and G1 using HPLC Contents: 1 x KOBRA® CELL 1 x power pack (incl. 1 red and 1 black connection lead) 1 x electrical adapter (with various adapters) 1 x 1 m length of 0.5 mm ID PEEK™ tubing 1 x spare membrane	1 unit	RBRK01
KOBRA® CELL Membrane	Replacement membrane for the KOBRA® CELL	1 unit	RBRK02
KOBRA® CELL Installation Pack	Contains 5 metres of PEEK tubing, a tubing cutter, 10 ferrules and 3 unions	1 unit	RBRK03
Stainless steel electrode	Replacement stainless steel electrode for KOBRA® CELL	1 unit	RBRK04
Platinum working electrode	Replacement working electrode for KOBRA® CELL	1 unit	RBRK05
Power Pack	Replacement power pack for KOBRA® CELL	1 unit	RBRK06
P.T.F.E. Spacer	Replacement spacer 0.25 mm for KOBRA® CELL	1 unit	RBRK07
P.T.F.E. Spacer	Replacement spacer 0.1 mm for KOBRA® CELL	1 unit	RBRK08
P.T.F.E. Spacer	Replacement spacer 0.1 mm for KOBRA® CELL with reaction channel	1 unit	RBRK09
P.T.F.E. Spacer grid	Replacement spacer grid for KOBRA® CELL	1 unit	RBRK10
<b>Premi®Test</b>			
Premi®Test® Starter Kit	Starter kit for Premi®Test, includes accessories (incubator, meat press, scissors, laboratory alarm clock)	1 set	ZPT-2000
Premi®Test® Multipress	Sampling device to squeeze 12 sample at once	1 unit	ZPT-2012
<b>Real-time PCR</b>			
<b>SureFast®</b>			
SureCycle®	Real-time PCR kit for cyclor verification (FAM & VIC/HEX)	260 reactions	F4001
SureFast® Animal+Plant Control 3plex	Extraction control	100 reactions	F4053
SureTaq® Hotstart Polymerase	Taq-Polymerase for 0.1 µL / reaction	100 reactions	F4005
SureTaq® Hotstart Polymerase II	Taq-Polymerase for 0.7 µL / reaction	100 reactions	F4003
SureCC Color Compensation Kit I	Color Compensation for multiplex application of SureFood®/SureFast® kits on LC480	For 3 calibration runs	F4009
SureCC Color Compensation Kit II	Color Compensation for multiplex application of SureFood®/SureFast® kits on LC2.0 and 1.5	For 3 calibration runs	F4010

# Explanation

## International standardisation and regulation authorities

AACCI	American Association of Cereal Chemists International
AFNOR	Association Française de Normalisation
AOAC	Association of Official Analytical Chemists  AOAC METHODS VALIDATION PROGRAMS: <ul style="list-style-type: none"> <li>• AOAC- RI      Performance Tested Methods<sup>SM</sup></li> <li>• AOAC-OMA    Official Methods<sup>SM</sup></li> <li>• AOAC-PTM    Peer-Verified Methods<sup>SM</sup></li> </ul>
CEN	Comité Européen de Normalisation
Codex Alimentarius Commission	The <b>Codex Alimentarius Commission</b> , established by FAO and WHO in 1963 develops harmonised international food standards and “ <b>Codex Methods of Analysis</b> ”.  The methods are primarily intended as international methods for the verification of provisions in Codex standards. Definition of Codex types of methods of analysis:  (a) Defining Methods (Type I) e.g. R5 Mendez ELISA method (b) Reference Methods (Type II) (c) Alternative Approved Methods (Type III) (d) Tentative Method (Type IV)
FGIS	Federal Grain Inspection Service
GIPSA	Grain Inspection, Packers and Stockyards Administration
IDF	International Dairy Federation
IFU	International Federation of Fruit Juice Producers
ISO	International Organisation for Standardization
MicroVal	European certification organisation for the validation and approval of alternative methods for the microbiological analysis of food and beverages
OIV	International Organization of Vine and Wine

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# General terms & conditions of R-Biopharm AG

(Date of issue: October 2010)

## I. General provisions

These General terms & conditions only are valid for entrepreneurs, legal entities under public law or public-law special assets (legal entities according to § 310 I German Civil Code ("Bürgerliches Gesetzbuch" - "BGB"). We deliver according to these General terms & conditions exclusively. They are deemed to have been acknowledged with the placing of an order or the receipt of the goods and shall also apply to all future business relationships, even if they are not explicitly agreed upon again. Deviating terms and conditions are not binding for us, even if we do not object to them explicitly.

## II. Orders and offer documents

Our offers are subject to alteration. Decisive for the scope of our delivery obligation are our offer in writing respectively our written order confirmation. Deliverable are only the products which are contained in our current applicable price lists.

## III. Prices and conditions of payment/Withdrawal in case of default

1. Purchase price is the price stated by us or - if no price has been stated - the price which is contained in our price list, which is in effect on the day of the order. The prices stated by us - unless otherwise stipulated in writing - are including packing and shipping costs, excluding VAT. The deduction of cash discounts shall not be granted. A small-quantity surcharge in the amount of 10 Euros can be charged for deliveries with a product value of up to 300 Euros (small quantity).
2. Payment obligations resulting from the delivery of goods are to be fulfilled within thirty (30) days of the invoice date by bank transfer exclusively and shall be deemed to have been effected only to the extent, to which we can dispose of them freely at a bank. For checks and bills of exchange, a processing fee of 30 Euros shall be charged; discounting and expenses shall be for the account of the Buyer.
3. The Buyer shall only be entitled to set-off with a counter-claim which is undisputed or has been determined by a final verdict. A right of retention the Buyer does only have as far as it is resulting from the same contractual relationship.
4. Should the Buyer be in default with due payments entirely or partly, the regulations of the statutory law are applicable. Interest in the amount of 8% above the basic interest rate (as it is published by the German Federal Bank) shall be due. We are reserving the right to claim any exceeding damage for delay.
5. In case of withdrawal, we are entitled - at the expense of the Buyer - to let the goods, which have been delivered by us, mark, store separately and collect. The Buyer - already yet - is declaring his consent that the persons who are commissioned with the collection are entitled to access the premises, on which the goods are, and enter them by car for this purpose.
6. In case of our withdrawal, we are not obliged to further deliveries any more, also regarding further future deliveries.

## IV. Retention of title

1. We shall retain title to the goods delivered by us, until all the claims, to which we are entitled on whatever legal grounds arising from our business relationship with the Buyer, have been fully satisfied. Upon the Buyer's request, we shall be obligated to release the securities in so far as their realizable value exceeds our claims by more than 10%. We reserve the right to select the items of collateral to be released.
2. The Buyer undertakes to only sell the goods, which are subject to retention, in his ordinary course of business, according to his usual terms and conditions of business and only as long as he is not in default with his payments. He is entitled to resell the goods, which are subject to retention, only on the condition that a transfer of the receivables, resulting from such a resale, to us takes place. He is not entitled to dispose of the goods, which are subject to retention, in any other way (such as e. g. collateral assignment, pledging, leasing, lending, etc.). The Buyer is obligated to immediately notify us of any seizure or other interference by a third party, together with handing over of the documents which are necessary for an intervention.

## V. Delivery

1. Our delivery times are generally only approximate and not binding.
2. Uncontrollable incidents, for which we are not responsible, e. g. natural phenomena, war, orders of the authorities, embargo, unexpected delays in the delivery of essential components and other materials ("Force Majeure"), shall prolong the delivery time reasonably. This also applies, if these incidents occur during a delay in delivery or at a sub-supplier. However, the delivery time shall be prolonged by a maximum period of two (2) months. Should we also not be able to deliver after this time, then the Buyer as well as we ourselves are entitled to withdraw from the contract. Any claims of damages of the Buyer for this reason are excluded. Should we withdraw from the contract, we shall immediately refund the Buyer any and all payments possibly rendered for not yet delivered goods.
3. Should the Buyer - despite reminder - not fulfill his payment obligations resulting from existing contracts, we shall only supply on advance payment from then on.
4. We are entitled to partial deliveries to a reasonable extent; here each partial delivery can be invoiced separately. In case of order on call, the call-off has to take place at least two (2) calendar weeks prior to the desired delivery date.

## VI. Shipment and passing of risk

1. Dispatch ex works or distribution warehouse shall be carried out at the expense of the Buyer. Shipping route and mode of dispatch shall be determined by us. We shall only be obligated to obtain a transport insurance, if explicitly instructed to do so by the Buyer in writing; the Buyer shall bear the costs for this insurance.

2. The passing of risk to the Buyer takes place as soon as the goods have been handed over to the haulage contractor respectively leave our factory or distribution warehouse for the purpose of dispatch; this also is valid, if we - by way of exception - organize additional services, e. g. carriage prepaid shipping, delivery to the premises of the Buyer, or similar. In particular we are not liable for alteration or deterioration of the goods during transport or resulting from improper storage. Should we have notified the Buyer that the goods are ready for dispatch or collection, the risk passes on to the Buyer, if he does not have the goods delivered or collect them, despite of us having set him a reasonable period of time for doing so; regarding that, the passing of risk takes place at the beginning of the day which follows the day, on which the deadline has expired.

## VII. Warranty/liability

1. It is precondition for the execution of claims based on a defect, that the Buyer has performed his responsibilities to examine and complain according to § 377 of the German Commercial Code ("Handelsgesetzbuch" - "HGB") correctly and completely.
2. We are liable for faultlessness of the goods corresponding to the state of the art. Features of samples and specimens as well as any statements regarding the condition of the goods, shall only be considered as an agreement on quality, if they explicitly have been agreed upon as determining the condition of the goods. Otherwise they are non-binding and do not free the Buyer from an own inspection of the goods concerning their suitability for his purposes. We neither grant guarantees with the content of a liability without fault nor any other kind of guarantees for quality and durability in the legal sense.
3. We are not liable for damages as far as they have been caused by improper storage of our products and/or their application contrary to the prescriptions - e. g. application after expiry of their shelf life or contrary to the direction for use - or as far as they have been caused by the Buyer in any other way.
4. The exceeding of use-by dates after the delivery does not entitle the Buyer to claims of any kind, but is deemed to be the usual condition. This is not the case, if the period between the date of delivery and the use-by date is less than four (4) calendar weeks.
5. We shall only be liable for damages, as far as we attributable have caused them by intent or gross negligence (disregard for the due care and attention to a very coarse extent); except in case of violation of essential contractual obligations (obligations, whose fulfillment enables the proper execution of the contract at all and on whose observance the contractual partner may rely regularly). In this last-mentioned case we are liable for each negligence with the restriction that - in case of violation of essential contractual duties by slight negligence - our liability is limited to the damage which typically is predictable.
6. Should we not have violated any essential contractual obligations in the sense mentioned before, we are not liable in cases of slight negligence. Unaffected by any limitation of liability contained in these General Terms & Conditions stay: Liability for intent, malice, initial inability, gross negligence, liability resulting from a guarantee (which, however, we generally not grant), bodily harms and other cases of legally compelling liability - in these cases the statutory law is valid (under exclusion of the Terms and Conditions of our contractual partner).
7. The regulations of this clause Warranty/Liability are valid for our contractual liability as well as liability resulting from tort (unaffected thereby stays the action for possession in case of tort, after statutory limitation has taken place, § 852 German Civil Code ("Bürgerliches Gesetzbuch" - "BGB")).
8. As far as our liability is excluded or limited, this shall also apply to the personal liability of our representatives, employees and vicarious agents and our liability for them.
9. As far as there is a defect of the goods, for which we are liable, the Buyer has to grant us the opportunity to execute subsequent performance within a term of generally two (2) calendar weeks, before the assertion of his further rights. In case that subsequent performance fails twice, in case of our refusal, or if subsequent performance is impossible, is delayed unreasonably or unreasonable for the Buyer due to other reasons, the Buyer may - according to his choice - execute his further legal rights, namely rescission or reduction of the purchase price and (regarding defects for which we are liable) claim of possibly occurred damages or compensation for possible futile expenditure, by which our liability is limited according to the preceding regulations.

## VIII. Burden of proof/export/effectiveness

1. With none of the stipulations of these General terms & conditions an alteration of the burden of proof is intended.
2. We are not liable for the correctness of information regarding foreign-trade which we provide to our best conscience; it is the Buyer's responsibility to assess the compliance with foreign-trade regulations with regard to our products himself.
3. Should any of the regulations of our General Terms & Conditions be ineffective and/or incomplete, the validity of the other regulations shall remain unaffected thereby.

## IX. Applicable law and place of jurisdiction

1. The contractual relationship shall be governed by the laws of the Federal Republic of Germany, which shall be applicable supplementary. The UN-convention on contracts regarding the International Sale of Goods (CISG) shall not apply.
2. Exclusive Place of Jurisdiction is Darmstadt (Germany). However, we are entitled to file a lawsuit against the Buyer also at any other court, which does have jurisdiction regarding him according to the general regulations.











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