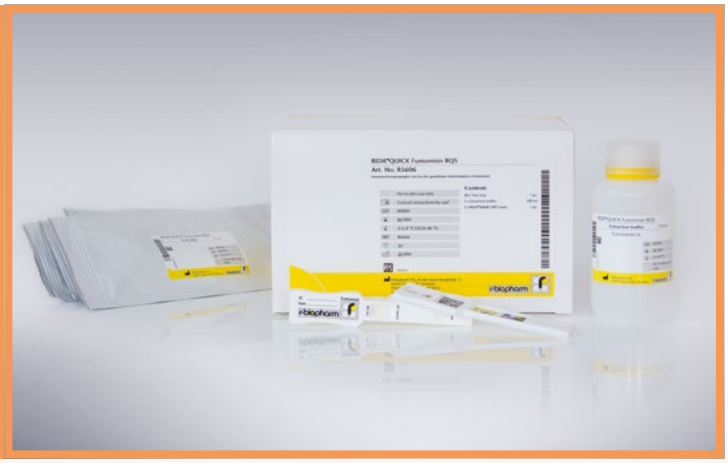
Mycotoxin analysis in food and feed

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.

R-Biopharm 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 determination of mycotoxins, semi-quantitative (visual evaluation) or quantitative (evaluation with RIDA®QUICK SCAN reader or RIDA®SMART APP software).
- 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.



RIDA®QUICK

Lateral flow assay

- Semi-quantitative or quantitative analysis
- Fast and reliable

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

RIDASCREEN®

ELISA tests for up to 96 determinations

- Highly sensitive
- Specific

RIDASCREEN®FAST

ELISA for up to 48/96 determinations

- Specific
- Fast and reliable

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.
	ELISA microtiter plates		
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/L (milk powder)	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/kg	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 ECO FGIS/GIPSA 2017-098	Enzyme immunoassay with aqueous extraction for the quantitative analysis of aflatoxin in corn Measurement range: 5 - 300 µg/kg	48 determinations Incubation time: 8 min	R5201
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: 2 µg/kg	48 determinations Incubation time: 15 min	R9002
	Immunoaffinity columns		
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)	RBRRP71 RBRRP70N
RIDA® Aflatoxin column	Immunoaffinity columns for sample clean-up prior to ELISA	10 columns (1 ml format) 50 columns (1 ml format)	R5001 R5002
	Solid phase columns		
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

* Further applications on request.

Aflatoxins

Product	Description	No. of tests/amount	Art. No.
	Test strips		
RIDA®QUICK Aflatoxin RQS	Immunochromatographic test for the quantitative determination of aflatoxin in corn in combination with RIDA®QUICK SCAN reader or RIDA®SMART APP software (see Equipment/Accessories) 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®QUICK SCAN reader or RIDA®SMART APP software (see Equipment/Accessories) Detection limit: 2 µg/kg	20 strips Incubation time: 5 min	R5209
	Test cards		
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

Ochratoxin A

	ELISA microtiter plates		
RIDASCREEN® Ochratoxin A 30/15	Enzyme immunoassay for quantitative determination of ochratoxin A in cereals, feed, beer and pig serum* Detection limit: 1.25 µg/kg (cereals/feed), approx. 50 ng/kg (beer/pig serum)	96 determinations Incubation time: 45 min	R1311
RIDASCREEN®FAST Ochratoxin A	Enzyme immunoassay for quantitative determination of ochratoxin A in cereals and feed*	48 determinations	R5402
	Immunoaffinity columns		
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 (1ml format)	R1303
	Test cards		
OCHRACARD	Qualitative detection of ochratoxin A at various screening levels	20 determinations + 20 Immunoaffinity columns	RBRP48

* Further applications on request.

Mycotoxins

Zearalenone

Product	Description	No. of tests/amount	Art. No.
	ELISA microtiter plates		
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 hrs 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
	Immunoaffinity columns		
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)	RBRRP91 RBRRP90
	Test strips		
RIDA®QUICK Zearalenon RQS	Immunochromatographic test for the quantitative determination of zearalenone in corn in combination with RIDA®QUICK SCAN reader or RIDA®SMART APP software (see section Equipment/ Accessories) Detection limit: 75 µg/kg (RIDA®QUICK SCAN), 50 µg/kg (RIDA®SMART APP)	20 strips Incubation time: 5 min	R5504

DON (Vomitoxin)

	ELISA microtiter plates		
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 GIPSA/FGIS 2014-052	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
	Immunoaffinity columns		
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
	Test strips		
RIDA®QUICK DON RQS ECO	Immunochromatographic test for the quantitative determination of DON in grain in combination with RIDA®QUICK SCAN reader or RIDA®SMART APP software (see Equipment/Accessories) Detection limit: 0.25 mg/kg	20 strips Incubation time: 3 min	R5911
RIDA®QUICK DON	Immunochromatographic test for the semi-quantitative determination (visual evaluation) of DON in grain Cut off levels: 0.5 mg/kg, 1.25 mg/kg	20 strips Incubation time: 5 min	R5909

* Further applications on request.

Fumonisins

Product	Description	No. of tests/amount	Art. No.
	ELISA microtiter plates		
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 GIPSA/FGIS 2016-081	Enzyme immunoassay for quantitative determination of fumonisins in cereals and feed Detection limit: 0.222 mg/kg	48 determinations Incubation time: 15 min	R5602
	Immunoaffinity columns		
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
	Test strips		
RIDA®QUICK Fumonisin RQS ECO	Immunochromatographic test for the quantitative determination of fumonisin in corn in combination with RIDA®QUICK SCAN reader or RIDA®SMART APP software (see section Equipment/ Accessories) Detection limit: 0.3 mg/kg	20 strips Incubation time: 5 min	R5606

T-2 Toxin

	ELISA microtiter plates		
RIDASCREEN® T-2 Toxin	Enzyme immunoassay for quantitative determination of T-2 toxin in cereals and feed Detection limit: approx. 7 µg/kg (barley, rye, corn, wheat), approx. 11 µg/kg (oats)	96 determinations Incubation time: 1 hr 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

	ELISA microtiter plates		
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
	Immunoaffinity columns		
EASI-EXTRACT® T-2 & HT-2 Toxin	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
	Test strips		
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®QUICK SCAN reader or RIDA®SMART APP software (see Equipment/Accessories) Detection limit: 50 µg/kg	20 strips Incubation time: 5 min	R5304

Mycotoxins

Citrinin

Product	Description	No. of tests/amount	Art. No.
	ELISA microtiter plates		
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
	Immunoaffinity columns		
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

Multi Toxin

	Immunoaffinity columns		
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
	Solid phase columns		
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
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

	Solid phase columns		
Trichothecene P columns	Solid phase column for sample clean-up prior to the analysis of trichothecenes using GC or LC-MS/MS	30 columns (test tube format)	RBRP51
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
Puritox DON/NIV	Solid phase column for clean-up prior to the analysis of deoxynivalenol and nivalenol using GC or LC-MS/MS	25 columns (gravity flow format)	TC-C210

Mycotoxins

Patulin

Product	Description	No. of tests/amount	Art. No.
	Enzyme		
Pectinase	An enzyme for the clarification of cloudy apple juice and apple purée prior to patulin analysis	100 determinations	RBRP129
	Molecularly imprinted columns		
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

	Immunoaffinity columns		
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

	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
Mycotoxins							
Aflatoxins • Total • B1 • M1	● ● ●	●	● ●	● ●	●	● ● ●	●
Citrinin	●			●		●	
DON	●	●		●	●	●	●
Fumonisins	●	●		●	●	●	●
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

Automated online analysis

Product	Description	No. of tests/amount	Art. No.
Aflatoxins	**Online immunoaffinity cartridges**		
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	49 cartridges	RBRP904/48
Ochratoxin A	**Online immunoaffinity cartridges**		
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
DON (Vomitoxin)	**Online immunoaffinity cartridges**		
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

Trilogy® mycotoxin reference materials and standards

Trilogy® Analytical Laboratory offers various reference materials and analytical standards for the quality assurance of mycotoxin analysis.

Trilogy® mycotoxin reference materials are naturally contaminated homogeneous products that contain a specific concentration of one or more mycotoxins. These reference materials have various applications including daily quality assurance, technician training, troubleshooting, proficiency testing, quality documentation and method validation. Reference materials are available containing the major mycotoxins in various matrices and levels of contamination:
Aflatoxin, Ochratoxin, Zearalenone, Deoxynivalenol and Fumonisin contaminated material are available, as well as multi-toxin containing reference materials. Commodities include corn and corn by-products, wheat and wheat products, barley and malted barley, oats, rice and coffee as well as complex products like animal feed. Samples are available in 100 g, 500 g and 1 kg re-sealable foil packs.

Trilogy® also provides over 40 analytical standards for a wide range of mycotoxins, in solvents and in dry form.
The Trilogy® 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. The Trilogy® dried standards are very easy to use. A simple reconstitution step reduces the need to handle hazardous mycotoxin powders.

The Trilogy® 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/LC-MS/MS determination of mycotoxins with minimal preparation and effort. Shelf life for both types of mycotoxin standards is typically 12 months after production; in addition to that the Trilogy® dried standards have a 6 months shelf life after reconstitution.

Trilogy® Mycotoxin reference material

- Naturally contaminated materials
- Single and multi-toxins
- Cereals
- Complex materials such as feed

Trilogy® mycotoxin standard substances

- Dried standard substances
- Ready-to-use standards
- Single toxin and toxin groups

Mycotoxins

Mycotoxin standards

Product	Description	No. of tests/amount	Art. No.
Aflatoxins	**Dried**		
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 after reconstitution	TS-108
Trilogy® Dried Standard Aflatoxin B1	Aflatoxin B1	25 µg/mL after reconstitution	TS-104
Trilogy® Dried Standard Aflatoxin B2	Aflatoxin B2	25 µg/mL after reconstitution	TS-105
Trilogy® Dried Standard Aflatoxin G1	Aflatoxin G1	25 µg/mL after reconstitution	TS-106
Trilogy® Dried Standard Aflatoxin G2	Aflatoxin G2	25 µg/mL after reconstitution	TS-107
Trilogy® Dried Standard Aflatoxin M1	Aflatoxin M1	1 µg/mL after reconstitution	TS-130
	Liquid		
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
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
Trilogy® Liquid Standard Aflatoxin B2	Aflatoxin B2 25 µg/mL in acetonitrile	10 ml	TSL-105
Trilogy® Liquid Standard Aflatoxin G1	Aflatoxin G1 25 µg/mL in acetonitrile	10 ml	TSL-106
Trilogy® Liquid Standard Aflatoxin G2	Aflatoxin G2 25 µg/mL in acetonitrile	10 ml	TSL-107
Trilogy® Liquid Standard Aflatoxin M1	Aflatoxin M1 0.5 µg/mL in acetonitrile	2 ml	TSL-143
M1 STANDARD	Aflatoxin M1 standard solution at a concentration of 1000 ng/mL in acetonitrile	6 ml	RBRP42
Ochratoxin A	**Dried**		
Trilogy® Dried Standard Ochratoxin A	1 µg/mL after reconstitution	1 µg/mL after reconstitution	TS-503
	Liquid		
Trilogy® Liquid Standard Ochratoxin A	Ochratoxin A 10 µg/mL in methanol	5 ml	TSL-504
OCHRASTANDARD	Ochratoxin A standard solution at a concentration of 1000 ng/mL in methanol	6 ml 3 ml	RBRP11 RBRP11A

Mycotoxin standards

Product	Description	No. of tests/amount	Art. No.
Zearalenone	**Dried**		
Trilogy® Dried Standard Zearalenone	Zearalenone	25 µg/mL after reconstitution	TS-401
	Liquid		
Trilogy® Liquid Standard Zearalenone	Zearalenone 25 µg/mL in methanol	10 mL	TSL-401
ZEASTANDARD	Zearalenone standard solution at a concentration of 1000 ng/ml in acetonitrile	3 mL	RBRP44A
DAS	**Dried**		
Trilogy® Dried Standard Diacetoxyscirpenol (DAS)	Diacetoxyscirpenol (DAS)	100 µg/mL after reconstitution	TS-316
DON (Vomitoxin)	**Dried**		
Trilogy® Dried Standard DON	Deoxynivalenol	50 µg/mL after reconstitution	TS-310
Trilogy® Dried Standard Deoxynivalenol (DON)	Deoxynivalenol (DON)	100 µg/mL after reconstitution	TS-317
Trilogy® Dried Standard 3-Acetyl Deoxynivalenol	3-acetyl deoxynivalenol	100 µg/mL after reconstitution	TS-342
Trilogy® Dried Standard 15-Acetyl Deoxynivalenol	15-acetyl deoxynivalenol	100 µg/mL after reconstitution	TS-343
	Liquid		
Trilogy® Liquid Standard Deoxynivalenol (DON)	Deoxynivalenol (DON) 100 µg/mL in methanol	10 ml	TSL-317
Fusarenon X	**Dried**		
Trilogy® Dried Standard Fusarenon X	Fusarenon X	100 µg/mL after reconstitution	TS-351
Fumonisins	**Dried**		
Trilogy® Dried Standard Fumonisin B1, B2	Fumonisin B1, Fumonisin B2 (10:3)	100/30 µg/mL after reconstitution	TS-202
	Liquid		
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
Trilogy® Liquid Standard Fumonisin B1	Fumonisin B1 100 µg/mL in acetonitrile/water (50/50)	5 ml	TSL-204
Trilogy® Liquid Standard Fumonisin B2	Fumonisin B2 100 µg/mL in acetonitrile/water (50/50)	2 ml	TSL-205
Neosolaniol	**Dried**		
Trilogy® Dried Standard Neosolaniol	Neosolaniol	100 µg/mL after reconstitution	TS-328
Nivalenol	**Dried**		
Trilogy® Dried Standard Nivalenol	Nivalenol	100 µg/mL after reconstitution	TS-344

Mycotoxins

Mycotoxin standards

Product	Description	No. of tests/amount	Art. No.
T-2/HT-2	**Dried**		
Trilogy® Dried Standard T-2 Toxin	T-2 Toxin	100 µg/mL after reconstitution	TS-314
Trilogy® Dried Standard HT-2 Toxin	HT-2 Toxin	100 µg/mL after reconstitution	TS-333
	Liquid		
Trilogy® Liquid Standard T-2 Toxin	T-2 Toxin 100 µg/mL in acenotrile	5 ml	TSL-314
Trilogy® Liquid Standard HT-2 Toxin	HT-2 Toxin 100 µg/mL in acenotrile	5 ml	TSL-333
Trichothecenes – Multitoxines	**Liquid**		
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
	Dried		
Trilogy® Dried Standard Type A Trichothecenes	Type A Trichothecenes (Diacetoxyscirpenol, HT-2 Toxin, T-2 Toxin, Neosolaniol)	10 µg/mL after reconstitution	TS-353
Citrinin	**Dried**		
Trilogy® Dried Standard Citrinin	Citrinin	5 µg/mL after reconstitution	TS-904
Patulin	**Liquid**		
Trilogy® Liquid Standard Patulin	Patulin 25 µg/mL in acetonitrile	5 ml	TSL-601

Reference material for mycotoxin analysis

Product	Description	No. of tests/amount	Art. No.
Reference material	**Food or feed product**		
Trilogy® Reference Material Aflatoxin	Commodities available upon request	100 gram 500 gram 1000 gram	TR-A100 TR-A500 TR-A1000
Trilogy® Reference Material Ochratoxin	Commodities available upon request	100 gram 500 gram 1000 gram	TR-O100 TR-O500 TR-O1000
Trilogy® Reference Material Zearalenon	Commodities available upon request	100 gram 500 gram 1000 gram	TR-Z100 TR-Z500 TR-Z1000
Trilogy® Reference Material Deoxynivalenol	Commodities available upon request	100 gram 500 gram 1000 gram	TR-D100 TR-D500 TR-D1000
Trilogy® Reference Material Fumonisin	Commodities available upon request	100 gram 500 gram 1000 gram	TR-F100 TR-F500 TR-F1000
Trilogy® Reference Material Multitoxin	Commodities and mycotoxins available upon request	100 gram 500 gram 1000 gram	TR-MT100 TR-MT500 TR-MT1000
Trilogy® Reference Material Complex commodities; Single & Multitoxin	Commodities and mycotoxins available upon request	100 gram 500 gram 1000 gram	TR-CC100 TR-CC500 TR-CC1000