

# 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 commission regulation. In accordance with the guidelines specific detection methods were developed. These include enzyme immunoassays, lateral flow devices or immunoaffinity columns, etc.

## R-Biopharm assays for screening of mycotoxins in food and feed

- **RIDASCREEN®** Enzyme immunoassays (ELISAs) use the high specificity of antigen and antibody interaction to detect and quantify mycotoxins by photometric measurement.
- **RIDA®QUICK** Lateral Flow tests are immunochromatographic tests for the semi-quantitative (visual evaluation) or quantitative (evaluation with RIDA®QUICK SCAN) analysis of mycotoxins.
- Test cards, **AFLACARD** und **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** are solid phase columns for the purification of mycotoxin contaminated samples prior to chromatographic analysis.



From quantification of single samples to analysis at high sample throughput

Sample purification prior to analysis with GC, LC-MS, ELISA

**RIDA®QUICK**  
Lateral flow assay

- Semi-quantitative or quantitative analysis
- Fast and reliable

**AFLACARD / OCHRACARD**  
Cards test for qualitative determination

- Analysis of a wide range of matrices
- Robust and easy

**RIDASCREEN®**  
ELISA tests for up to 96 determinations

- Highly sensitive
- Specific

**RIDASCREEN®FAST**  
ELISA tests for up to 48/96 determinations

- Specific
- Fast and reliable

**PREP®, EASI-EXTRACT®, RIDA®**  
Immunoaffinity columns

- Multi-toxin analysis in conjunction with HPLC, LC-MS/MS possible
- For a wide range of matrices

**Clean-up Columns**  
Solid phase columns

- Rapid purification



## Mycotoxins












Product	Description	No. of Tests/Amount	Art. No.
<b>Aflatoxins</b>			
<b>ELISA Microtiter Plates</b>			
RIDASCREEN® Aflatoxin M1	Enzyme immunoassay for quantitative analysis of aflatoxin M1 in milk, milk powder and cheese* Detection limit: milk 5 ppt, milk powder and cheese 50 ppt	96 determinations Incubation time: 1 hr 15 min	R1121
RIDASCREEN®FAST Aflatoxin M1	Enzyme immunoassay for quantitative analysis of aflatoxin M1 in milk and milk powder Detection limit: < 125 ppt	48 determinations Incubation time: 15 min	R5812
RIDASCREEN® Aflatoxin B1 30/15	Enzyme immunoassay for quantitative analysis of aflatoxin B1 in cereals and feed Detection limit: 1 ppb	96 determinations Incubation time: 45 min	R1211
RIDASCREEN® Aflatoxin Total	Enzyme immunoassay for quantitative analysis of total aflatoxin in cereals and feed* Detection limit: 1.75 ppb	96 determinations Incubation time: 45 min	R4701
RIDASCREEN®FAST Aflatoxin	Enzyme immunoassay for quantitative analysis of aflatoxins in cereals and feed Detection limit: 1.7 ppb	48 determinations Incubation time: 15 min	R5202
RIDASCREEN®FAST Aflatoxin SC GIPSA/FGIS approved	Enzyme immunoassay for quantitative analysis of aflatoxins in cereals and feed Detection limit: 2 ppb	48 determinations Incubation time: 15 min	R9002
<b>Immunoaffinity Columns</b>			
AFLASCAN®	Immunoaffinity columns for semi-quantitative detection of total aflatoxins using a UV light Detection limits: 1, 2, 4, 5, 10 ppb	25 columns + 25 florisil tips	RBRP02
AFLAPREP®	Immunoaffinity columns for sample clean-up prior to the analysis of aflatoxins B1, B2, G1 and G2 using HPLC	50 columns (1 ml format)	RBRP07
AFLAPREP® M	Immunoaffinity columns for sample clean-up prior to the analysis of aflatoxin M1 using HPLC	25 columns (1 ml format)	RBRP04
AFLAPREP® M WIDE	Immunoaffinity columns for sample clean-up prior to the analysis of aflatoxin M1 using HPLC	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	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
<b>Clean-up Columns/Solid Phase Columns</b>			
AFLATOXIN CLEAN-UP COLUMN	For use with ELISAs as an additional clean-up for problematic matrices	50 columns	RBRP25
<b>Test Strips</b>			
RIDA®QUICK Aflatoxin	Immunochromatographic test for the detection of aflatoxin in cereals, nuts and spices* (evaluation visually) Detection limit: 4 ppb / 10 ppb / 20 ppb	20 strips Incubation time: 4 - 16 min	R5204
RIDA®QUICK Aflatoxin RQS	Immunochromatographic test for the detection of aflatoxin in corn and rice* in combination with RIDA®QUICK SCAN (page 54, Equipment/Accessories) Detection limit: 4 ppb	20 strips Incubation time: 5 min	R5205
RIDA®QUICK Aflatoxin RQS ECO	Immunochromatographic test for the detection of aflatoxin in corn and rice in combination with RIDA®QUICK SCAN (page 54, Equipment/Accessories) aqueous extraction Detection limit: 4 ppb	20 stripes Incubation time: 5 min	R5206

\* Further applications on request.



# Mycotoxins












Product	Description	No. of Tests/Amount	Art. No.
<b>Aflatoxins</b>			
<b>Test Cards</b>			
AFLACARD B1	Qualitative detection of aflatoxin B1 at various screening levels; Detection limit: 2 ppb	20 determinations	RBRP27
AFLACARD TOTAL	Qualitative detection of total aflatoxins at various screening levels; Detection limit: 2 ppb	20 determinations	RBRP38
<b>Sterigmatocystin</b>			
<b>Immunoaffinity Columns</b>			
EASI-EXTRACT® STERIGMATOCYSTIN	Immunoaffinity columns for sample clean-up prior to the analysis of Sterigmatocystin using HPLC	10 columns (3 ml format) 50 columns (3 ml format)	RBRP125 RBRP125B
<b>Ochratoxin A</b>			
<b>ELISA Microtiter Plates</b>			
RIDASCREEN® Ochratoxin A 30/15	Enzyme immunoassay for quantitative analysis of ochratoxin A in cereals, feed, beer and pig serum* Detection limit: cereals 1.25, feed 2.5 ppb, beer and pig serum approx. 50 ppt	96 determinations Incubation time: 45 min	R1311
RIDASCREEN®FAST Ochratoxin A	Enzyme immunoassay for quantitative analysis of ochratoxin A in cereals and feed* Detection limit: 5 ppb	48 determinations Incubation time: 15 min	R5402
<b>Immunoaffinity Columns</b>			
OCHRAPREP®	Immunoaffinity columns for sample clean-up prior to the analysis of ochratoxin A using HPLC	10 columns (1 ml format) 50 columns (1 ml format)	RBRP14 RBRP14B
RIDA® Ochratoxin A column	Immunoaffinity columns for sample clean-up prior to ELISA	10 columns (1ml format)	R1303
<b>Clean-up Columns/Solid Phase Columns</b>			
OCHRATOXIN CLEAN-UP COLUMNS	Clean-up columns for the analysis of roast and instant coffee samples, used in conjunction with OCHRACARD	50 columns	RBRP13
<b>Test Cards</b>			
OCHRACARD	Qualitative detection of ochratoxin A at various levels Detection limit: 0.5 ppb	20 determinations + 20 immunoaffinity columns	RBRP48
<b>Citrinin</b>			
<b>ELISA Microtiter Plates</b>			
RIDASCREEN®FAST Citrinin	Enzyme immunoassay for quantitative analysis of citrinin in cereals and feed; Detection limit: 15 ppb	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	10 columns (3 ml format) 50 columns (3 ml format)	RBRP126 RBRP126B
<b>Zearalenone</b>			
<b>ELISA Microtiter Plates</b>			
RIDASCREEN® Zearalenon	Enzyme immunoassay for quantitative analysis of zearalenone in cereals, feed, beer, serum and urine* Detection limits: 50 ppt serum/urine, 250 ppt beer and 1750 ppt cereals/feed	96 determinations Incubation time: 2 hrs 30 min	R1401
RIDASCREEN®FAST Zearalenon	Enzyme immunoassay for quantitative analysis of zearalenone in cereals and feed* Detection limit: 17 - 41 ppb	48 determinations Incubation time: 15 min	R5502
RIDASCREEN®FAST Zearalenon SC	Enzyme immunoassay for quantitative analysis of zearalenone in cereals; Detection limit: 5 ppb	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	10 columns (3 ml format) 50 columns (3 ml format)	RBRP91 RBRP90
<b>Test Strips</b>			
RIDA®QUICK Zearalenon RQS	Immunochromatographic test for the detection of zearalenone in corn in combination with RIDA®QUICK SCAN (page 54, Equipment/Accessories) Detection limit: 75 ppb	20 strips Incubation time: 5 min	R5504

\* Further applications on request.












## Mycotoxins

Product	Description	No. of Tests/Amount	Art. No.
<b>DON (Vomitoxin)</b>	<b>ELISA Microtiter Plates</b> 		
RIDASCREEN® DON	Enzyme immunoassay for quantitative analysis of deoxynivalenol in cereals, malt, feed, beer and wort Detection limits: 18.5 ppb (feed/cereals/malt) and 3.7 ppb (beer/wort)	96 determinations Incubation time: 45 min	R5906
RIDASCREEN®FAST DON AOAC RI 000701 & GIPSA/FGIS 2001-105	Enzyme immunoassay for quantitative analysis of DON in cereals, malt and feed Detection limit: < 0.2 ppm	96 determinations 48 determinations Incubation time: 8 min	R5901 R5902
RIDASCREEN®FAST DON SC GIPSA/FGIS 2008-103	Enzyme immunoassay for quantitative analysis of DON in cereals, malt and feed Detection limit: 0.074 ppm	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	10 columns (3 ml format) 50 columns (3 ml format)	RBRP50 RBRP50B
	<b>Clean-up Columns/Solid Phase Columns</b> 		
PuriTox Deoxynivalenol	Solid phase column for sample clean-up prior to the analysis of deoxynivalenol using HPLC	25 columns	discontinued
	<b>Test Strips</b> 		
RIDA®QUICK DON	Immunochromatographic test for the semi-quantitative (visual evaluation) or quantitative (evaluation with RIDA®QUICK SCAN page 54, Equipment/Accessories) detection of DON in grain Detection limit: 0.5 ppm	20 strips Incubation time: 5 min	R5904
<b>Toxin T-2</b>	<b>ELISA Microtiter Plates</b> 		
RIDASCREEN® T-2 Toxin	Enzyme immunoassay for quantitative analysis of T-2 toxin in cereals and feed Detection limit: < 5 ppb	96 determinations Incubation time: 1 hr 30 min	R3801
RIDASCREEN®FAST T-2 Toxin	Enzyme immunoassay for quantitative analysis of T-2 toxin in cereals and feed Detection limit: < 20 ppb	48 determinations Incubation time: 15 min	R5302
<b>Toxin T-2 / HT-2</b>	<b>ELISA Microtiter Plates</b> 		
RIDASCREEN® T-2 / HT-2 Toxin	Enzyme immunoassay for quantitative analysis of T-2 and HT-2 toxin in oats, corn, barley and wheat Detection limit: 30 ppb	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	10 columns (3 ml format) 50 columns (3 ml format)	RBRP43 RBRP43B
	<b>Test Strips</b> 		
RIDA®QUICK T-2 / HT-2 Toxin RQS	Immunochromatographic test for the semi-quantitative (visual evaluation) or quantitative (evaluation with RIDA®QUICK SCAN page 54, Equipment/Accessories) detection of T-2 / HT-2 toxin in oats, corn, and wheat Detection limit: 50 ppm	20 strips Incubation time: 5 min	R5304
<b>Trichothecenes</b>	<b>Clean-up Columns/Solid Phase Columns</b> 		
Trichothecene P columns	Solid phase column for sample clean-up prior to the analysis of trichothecenes using GC or LC-MS/MS	30 columns	RBRP51
Trichothecene EP columns	Solid phase column for sample clean-up prior to the analysis of trichothecenes using GC or LC-MS/MS	30 columns	RBRP53
PuriTox Trichothecene	Solid phase column for clean-up cereal samples prior to the analysis of trichothecenes using GC	25 columns	TC-T220
PuriTox Trichothecene Plus	Solid phase column for clean-up highly colored, pigmented samples such as animal feed prior to the analysis of trichothecenes using GC	25 columns	TC-C210



# Mycotoxins



Product	Description	No. of Tests/Amount	Art. No.
<b>Fumonisin</b> 			
<b>ELISA Microtiter Plates</b>			
RIDASCREEN® Fumonisin	Enzyme immunoassay for quantitative analysis of fumonisins in corn and corn products Detection limit: 25 ppb	96 determinations Incubation time: 45 min	R3401
RIDASCREEN®FAST Fumonisin GIPSA/FGIS 2012-030	Enzyme immunoassay for quantitative analysis of fumonisins in cereals and feed Detection limit: 0.222 ppm	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	25 columns (3 ml format)	RBRP31
<b>Clean-up Columns/Solid Phase Columns</b> 			
PuriTox Fumonisin	Solid phase column for sample clean-up prior to the analysis of fumonisins using LC	25 columns	discontinued
<b>Test Strips</b> 			
RIDA®QUICK Fumonisin	Immunochromatographic test for the detection of fumonisin in corn (evaluation visually) Detection limit: 0.8 ppm or 4 ppm	20 strips Incubation time: 5 min	R5604
RIDA®QUICK Fumonisin RQS	Immunochromatographic test for the detection of fumonisin in corn in combination with RIDA®QUICK SCAN (page 54, Equipment/Accessories) Detection limit: 0.8 ppm or 4 ppm	20 strips Incubation time: 5 min	R5606
<b>Multi Toxin</b> 			
<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	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 aflatoxins, ochratoxin 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	10 columns (3 ml format) 50 columns (3 ml format)	RBRP112 RBRP112B
<b>Clean-up Columns/Solid Phase Columns</b> 			
PuriTox MultiToxin	Solid phase column for sample clean-up prior to the analysis of total aflatoxins and zearalenone using HPLC or GC	25 columns	TC-M160
<b>Patulin</b> 			
<b>Enzyme</b>			
Pectinase	An enzyme for the clarification of cloudy apple juice and apple purée prior to patulin analysis	50 ml	RBRP54
<b>Molecularly Imprinted Columns</b> 			
EASIMIP™ PATULIN	Molecularly imprinted columns for sample clean-up prior to the analysis of patulin using HPLC	10 columns (3 ml format) 50 columns (3 ml format)	RBRP250 RBRP250B
<b>Standards</b> 			
<b>Standards (liquid)</b>			
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
AFLATOXINM1 STANDARD	Aflatoxin M1 standard solution at a concentration of 1000 ng/ml in acetonitrile	6 ml	RBRP42
OCHRASTANDARD	Ochratoxin A standard solution at a concentration of 1000 ng/ml in methanol	6 ml 3 ml	RBRP11 RBRP11A
ZEASTANDARD	Zearalenone standard solution at a concentration of 1000 ng/ml in acetonitrile	6 ml 3 ml	RBRP44 RBRP44A

# Automated Online Analysis of Mycotoxins in Food and Feed

IMMUNOPREP® ONLINE immunoaffinity cartridges are used together with the Symbiosis™ handling system and 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 technology enables the cartridge to be incorporated directly online with an HPLC or LC-MS/MS system.

The immunoaffinity cartridge offers highly specific, sensitive, rapid and automated analysis. The sample application, washing and elution is performed online for up to 12 samples 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 AFLATOXIN

### Advantages

- Improved Quality Assurance
- Accurate
- Improved Traceability and Efficiency
- Reusable cartridges
- Increased Sample Throughput
- Potential Cost Savings
- New Platform Technology: SYMBIOSYS™



## Mycotoxins



Product	Description	No. of Tests/Amount	Art. No.
<b>Aflatoxin</b>			
<b>Online Immunoaffinity Cartridges</b>			
IMMUNOPREP® ONLINE AFLATOXIN	Online immunoaffinity cartridges used in conjunction with the Symbiosis™ handling system for the automated clean-up and analysis of aflatoxins B1, B2, G1 and G2 with HPLC	96 cartridges	RBRP900
<b>Ochratoxin A</b>			
<b>Online Immunoaffinity Cartridges</b>			
IMMUNOPREP® ONLINE OCHRATOXIN	Online immunoaffinity cartridges used in conjunction with the Symbiosis™ handling system for the automated clean-up and analysis of ochratoxin A with HPLC	96 cartridges	RBRP901
<b>DON (Vomitoxin)</b>			
<b>Online Immunoaffinity Cartridges</b>			
IMMUNOPREP® ONLINE DEOXYNIVALENOL	Online immunoaffinity cartridges used in conjunction with the Symbiosis™ handling system for the automated clean-up and analysis of deoxynivalenol with HPLC	96 cartridges	RBRP902

# Trilogy® Certified Mycotoxin Reference Materials and Mycotoxin Standards

Trilogy® Analytical Laboratory offers certified reference materials for the quality assurance of mycotoxin analysis. Trilogy® Certified Mycotoxin Reference materials are naturally contaminated homogeneous products that have been certified to 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 a wide range of analytical standards for over 30 different mycotoxins, both 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 or GC.

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 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® Certified Mycotoxin Reference Materials**

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



**Trilogy® Mycotoxin Standards**

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





# Mycotoxins



Product	Description	No. of Tests/Amount	Art. No.
<b>Standard</b>	<b>dried</b>		
Trilogy® Dried Standard Aflatoxin B1	Aflatoxin B-1	25 µg/ml after reconstitution	TS-104
Trilogy® Dried Standard Aflatoxin B2	Aflatoxin B-2	25 µg/ml after reconstitution	TS-105
Trilogy® Dried Standard Aflatoxin G1	Aflatoxin G-1	25 µg/ml after reconstitution	TS-106
Trilogy® Dried Standard Aflatoxin G2	Aflatoxin G-2	25 µg/ml after reconstitution	TS-107
Trilogy® Dried Standard Aflatoxins B1, B2, G1, G2	Aflatoxins B1, G1, B2, G2 (4:4:1:1)	5 µg/ml (2 / 2 / 0.5 / 0.5 µg/ml) after reconstitution	TS-108
Trilogy® Dried Standard Aflatoxin M1	Aflatoxin M1	1 µg/ml after reconstitution	TS-130
Trilogy® Dried Standard Fumonisin B1, B2	Fumonisin B1, Fumonisin B2 (10:3)	100 / 30 µg/ml after reconstitution	TS-202
Trilogy® Dried 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 (each) after reconstitution	TS-307
Trilogy® Dried Standard DON	Deoxynivalenol	50 µg/ml after reconstitution	TS-310
Trilogy® Dried Standard T-2 Toxin	T-2 Toxin	100 µg/ml after reconstitution	TS-314
Trilogy® Dried Standard Diacetoxyscirpenol (DAS)	Diacetoxyscirpenol (DAS)	100 µg/ml after reconstitution	TS-316
Trilogy® Dried Standard Deoxynivalenol (DON)	Deoxynivalenol (DON)	100 µg/ml after reconstitution	TS-317
Trilogy® Dried Standard Neosolaniol	Neosolaniol	100 µg/ml after reconstitution	TS-328
Trilogy® Dried Standard HT-2 Toxin	HT-2 Toxin	100 µg/ml after reconstitution	TS-333
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
Trilogy® Dried Standard Nivalenol	Nivalenol	100 µg/ml after reconstitution	TS-344
Trilogy® Dried Standard Fusarenon X	Fusarenon X	100 µg/ml after reconstitution	TS-351
Trilogy® Dried Standard Type A Trichothecenes	Type A Trichothecenes (Diacetoxyscirpenol, HT-2 Toxin, T-2 Toxin, Neosolaniol)	10 µg/ml after reconstitution	TS-353
Trilogy® Dried Standard Type B Trichothecenes	Type B Trichothecenes (Fusarenon X, Deoxynivalenol, 3- & 15-Acetyl DON, Nivalenol)	10 µg/ml after reconstitution	TS-354
Trilogy® Dried Standard Zearalenone	Zearalenone	25 µg/ml after reconstitution	TS-401
Trilogy® Dried Standard Ochratoxin A	Ochratoxin A	1 µg/ml after reconstitution	TS-503
Trilogy® Dried Standard Cyclopiazonic Acid	Cyclopiazonic acid	10 µg/ml after reconstitution	TS-802
Trilogy® Dried Standard Citrinin	Citrinin	5 µg/ml after reconstitution	TS-904



## Mycotoxins

Product	Description	No. of Tests/Amount	Art. No.
<b>Standard</b>	<b>liquid</b>		
Trilogy® Liquid Standard Aflatoxin B1	Aflatoxin B1; 25 µg/ml acetonitrile	10 ml	TSL-104
Trilogy® Liquid Standard Aflatoxin B2	Aflatoxin B2; 25 µg/ml acetonitrile	10 ml	TSL-105
Trilogy® Liquid Standard Aflatoxin G1	Aflatoxin G1; 25 µg/ml acetonitrile	10 ml	TSL-106
Trilogy® Liquid Standard Aflatoxin G2	Aflatoxin G2; 25 µg/ml acetonitrile	10 ml	TSL-107
Trilogy® Liquid Standard Aflatoxins B1, B2, G1, G2	Aflatoxins B1, B2, G1, G2 (4:1:4:1), 5 µg/ml (2.0 / 0.5 / 2 / 0.5 µg/ml), in acetonitril	10 ml	TSL-108
Trilogy® Liquid Standard Aflatoxin M1	Aflatoxin M1; 0.5 µg/ml acetonitrile	2 ml	TSL-143
Trilogy® Liquid Standard Fumonisin B1, B2	Fumonisin B1, Fumonisin B2 (10:3); 100/30 µg/ml acetonitrile / water (50/50)	2 ml	TSL-202
Trilogy® Liquid Standard Fumonisin B1	Fumonisin B1; 100 µg/ml acetonitrile/water (50/50)	5 ml	TSL-204
Trilogy® Liquid Standard Fumonisin B2	Fumonisin B2; 100 µg/ml acetonitrile / water (50/50)	2 ml	TSL-205
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 acetonitrile	2 ml	TSL-307
Trilogy® Liquid Standard T-2 Toxin	T-2 Toxin; 100 µg/ml acetonitrile	5 ml	TSL-314
Trilogy® Liquid Standard Deoxynivalenol (DON)	Deoxynivalenol (DON); 100 µg/ml methanol	10 ml	TSL-317
Trilogy® Liquid Standard HT-2 Toxin	HT-2 Toxin; 100 µg/ml acetonitrile	5 ml	TSL-333
Trilogy® Liquid Standard Zearalenone	Zearalenone; 25 µg/ml methanol	10 ml	TSL-401
Trilogy® Liquid Standard Ochratoxin	Ochratoxin A; 10 µg/ml methanol	5 ml	TSL-504
Trilogy® Liquid Standard Patulin	Patulin; 25 µg/ml acetonitrile	5 ml	TSL-601



## Mycotoxins



Product	Description	No. of Tests/Amount	Art. No.
<b>Reference Material</b>			
Trilogy® Certified Reference Material Aflatoxin	Commodities available upon request	100 gram 500 gram 1000 gram	TR-A100 TR-A500 TR-A1000
Trilogy® Certified Reference Material Ochratoxin	Commodities available upon request	100 gram 500 gram 1000 gram	TR-O100 TR-O500 TR-O1000
Trilogy® Certified Reference Material Zearalenon	Commodities available upon request	100 gram 500 gram 1000 gram	TR-Z100 TE-Z500 TR-Z1000
Trilogy® Certified Reference Material Deoxynivalenol	Commodities available upon request	100 gram 500 gram 1000 gram	TR-D100 TR-D500 TR-D1000
Trilogy® Certified Reference Material Fumonisin	Commodities available upon request	100 gram 500 gram 1000 gram	TR-F100 TR-F500 TR-F1000
Trilogy® Certified Reference Material Multitoxin	Commodities and mycotoxins available upon request	100 gram 500 gram 1000 gram	TR-MT100 TR-MT500 TR-MT1000
Trilogy® Certified Reference Material Complex commodities; Single & Multitoxin	Commodities and mycotoxins available upon request	100 gram 500 gram 1000 gram	TR-CC100 TR-CC500 TR-CC1000