


NEW!

interchim®

jasem

Multi-Mycotoxins

New Advanced - Fast - Versatile Sample Preparation Method & Kits for Analysis of Mycotoxins Residue in Various Nuts & Figs with LC-MS-MS

Jasem S.A. in Istanbul, Turkey (a multinational joint venture), has developed – with several beta-customers for long term life use – a series of new applications for the Food & Beverage as well as Clinical Markets; the used H/W is based upon LC- Triple Quad technology

® Patent pending

Mycotoxins are secondary metabolites produced by molds, without biochemical significance in fungal growth and development. Although they exist since ancient times, the term mycotoxins appeared in 1960 when 100 000 turkey poults died due to the ingestion of peanuts contaminated with secondary metabolites from Aspergillus flavus.

Mycotoxins are compounds with various chemical structures and various biological effects in animals and humans such as toxic, carcinogenic, estrogenic, mutagenic, teratogenic, and immunotoxic effects.

In Europe, Commission Regulation (EC) No 1881/2006 and its amendments have set several MRLs for 13 mycotoxins.

Present Reference Methods-Usual sample clean up method in use :

- Aflatoxins: IAC, SPE
- Type A Trichothecenes: SPE, Mycosep columns
- Type B Trichothecenes: liquid-liquid separation, IAC (DON), SPE, Mycosep
- Zearalenone: liquid-liquid separation, IAC, SPE, Mycosep
- Moniliformin: Ion exchange column
- Beauvericin: Liquid-liquid separation, SPE, Mycosep
- Ochratoxin A: IAC, SPE, Ion exchange column
- Fumonisins: IAC, SAX, SPE
- Patulin: liquid-liquid separation, Mycosep, SPE

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New Jasem® Sample Preparation Method

Step 1

Weigh 5.0 g fine blended peanut sample into a 50 ml polypropylene falcon

Step 2

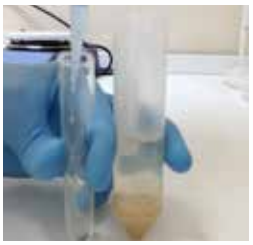
Add 20ml reagent-1 onto sample and vortex 1 min. and shake 15 min.

Step 3

Centrifuge at 2000 rpm for 5 min.

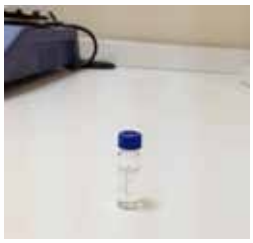
Step 4

Take 1 ml clear supernatant and 1 ml reagent-2



Step 5

Filter the supernatant and transfer into HPLC vial



It takes only 5 different sample prep steps with in total only 20 min. versus reference method with 9 different sample preps steps taking about 1,5-2 hours.

HT2 is analyzed in 2nd run with the same preparation sample

	LOQ ppb(µg/kg)	LOD ppb(µg/kg)
AFB1	0,34	0,24
AFB2	0,22	0,18
AFG1	0,29	0,24
AFG2	0,3	0,24
OTA	1,25	0,97
T-2	27,81	22,46
DON	217	187
NEO	4,39	2,75
STE	0,53	0,45
ZON	28,29	21,92
FB1	30,9	24,34
FB2	25,72	18,72
HT2	113,14	103,25

LOQ Average + 10 SD
LOD Average + 3 SD

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Chocolate Nut Cream Matrix

		LOQ(ppb)	LOD (ppb)
Aflatoxin B1	AFB1	0.03	0.01
Aflatoxin B2	AFB2	0.3	0.1
Aflatoxin G1	AFG1	0.1	0.03
Aflatoxin G2	AFG1	0.2	0.07
Strigmatocystine	STE	0.5	0.17
Ochratoxin A	OTA	0.2	0.07
Neosolaniol	NEO	0.5	0.17
Zearelanone	ZON	0.2	0.07

Pistachio Matrix

		LOQ(ppb)	LOD (ppb)
Aflatoxin B1	AFB1	0.09	0.03
Aflatoxin B2	AFB2	0.08	0.03
Aflatoxin G1	AFG1	0.07	0.02
Aflatoxin G2	AFG1	0.2	0.07
Strigmatocystine	STE	0.1	0.03
Ochratoxin A	OTA	0.3	0.1
Neosolaniol	NEO	0.5	0.2

Hazelnut Matrix

		LOQ(ppb)	LOD (ppb)
Aflatoxin B1	AFB1	0.6	0.2
Aflatoxin B2	AFB2	0.1	0.03
Aflatoxin G1	AFG1	0.5	0.2
Aflatoxin G2	AFG1	0.5	0.2
Strigmatocystine	STE	2	0.7
Ochratoxin A	OTA	2	0.7

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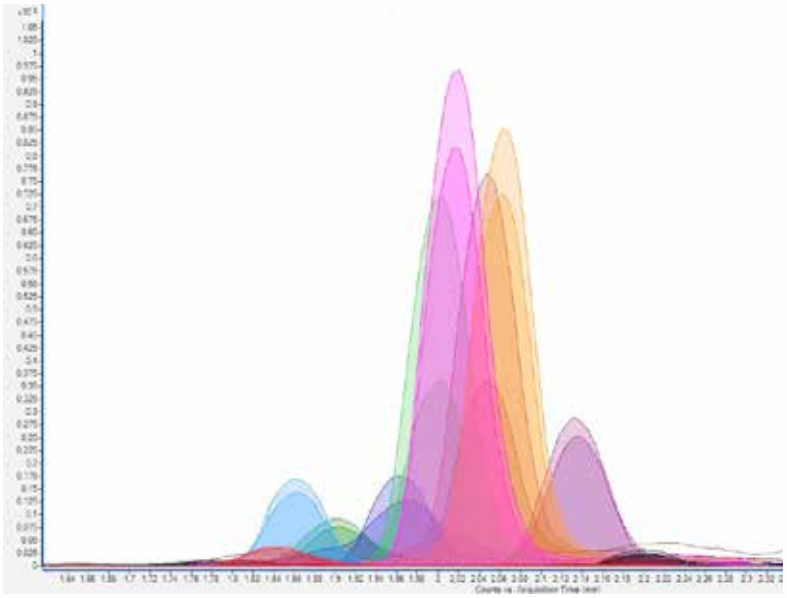
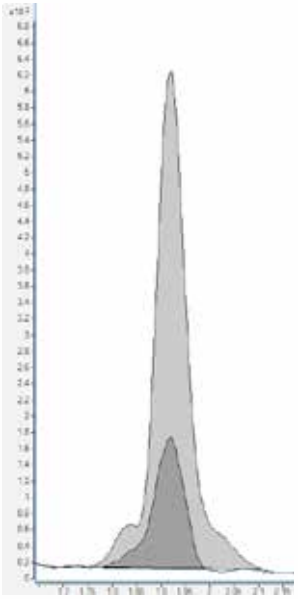
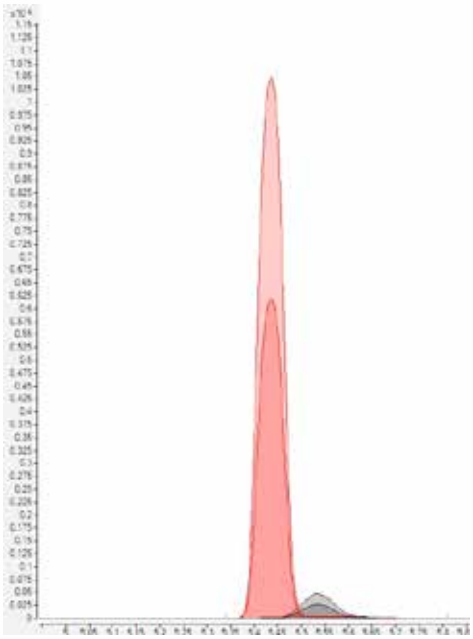


Multi-toxin



HT-2 toxin



FB1 & FB2

Concentrations of Spiked Peanut

		ppb
1	AFLA B1	1
2	AFLA B2	1
3	AFLA G1	1
4	AFLA G2	1
5	STE	1
6	OTA	1
7	DON	100
8	HT2	100
9	ZON	10
10	T2	10
11	NEO	10
12	FB1	100
13	FB2	100

Your Benefits using a Jasem® sample preparation Kit

1- Fast and easy sample preperation time of 20 minutes for all 13 mycotoxins (ref. method 1,5-2 hours)

2- Much Lower cost for your sample preparation,

3- No need for concentration steps

4- 1st run time is only 12 minutes for 12 Mycotoxins

5- 2nd run time is only 8 minutes for 1 Mycotoxin (HT2)

6- No source contamination and a very selective and sensitive method

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