BIOPURE™

Fully stable ^{13}C isotope labeled calibrants

Biopure™ fully stable ^{13}C isotope labeled calibrants are unique and rely on a patented technology, proprietary to Romer Labs. They play a pivotal role in LC-MS/MS analysis and are widely used in multi-analyte methods.

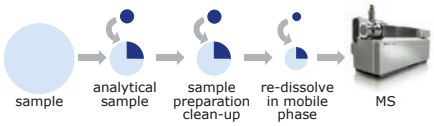
How Biopure™ fully stable ^{13}C isotope labeled calibrants work

^{13}C isotope labeled Mycotoxins are used as internal standards (ISTD) for mass spectrometry (MS).

All constituting carbon atoms in the molecule are replaced by the stable carbon isotope ^{13}C. Because of the similar chemical structure of analyte and ^{13}C analogue these substances behave similar in chromatography but differentiate in MS. Recovery losses from sample preparation and ion suppression or enhancement effects in the MS source can be eliminated.

Application in LC-MS/MS – Routine Analysis

To keep costs efficient the point of internal standard addition of the sample into the MS system is crucial. Depending on sensitivity of the MS system used and influences to correct ISTD can be added into the analytical sample, prior to cleanup or prior to injection into the MS system.



CUSTOMER BENEFITS

- Correct matrix effects
- Fully labeled calibrants show an optimum mass unit difference between analyte and IS – no interference
- Results with high accuracy and precision
- ^{13}C fully labeled IS advantage – no isotope effect
- State-of-the-art technology

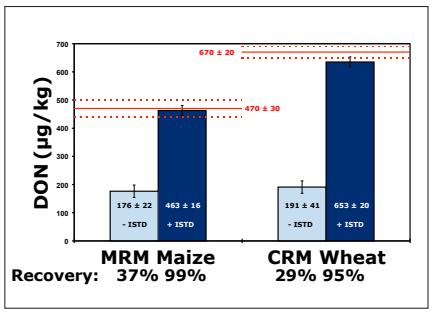


Figure 1. *Results of an LC-MS/MS method using a ^{13}C internal standard (+IS) compared to no internal standard (-IS).*

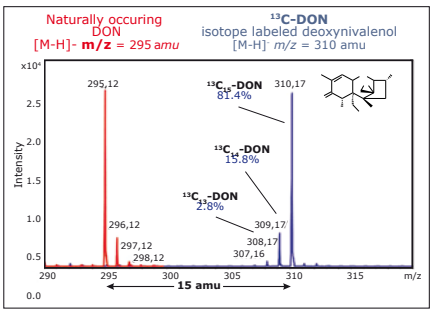


Figure 2. *Mass spectrum showing deoxynivalenol and ^{13}C-deoxynivalenol separated due to mass increase in the ^{13}C analog.*

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Ordering Information – Stable Isotope Labeled Calibrants (Mycotoxins)

Product	Description	Item Number
U-[$^{13}C_{17}$]-3-Acetyl-Deoxynivalenol	25 µg/mL in acetonitrile – 1.2 mL	ILM006
U-[$^{13}C_{17}$]-Aflatoxin B1	0.5 µg/mL in acetonitrile – 1.2 mL	ILM010
U-[$^{13}C_{17}$]-Aflatoxin B2	0.5 µg/mL in acetonitrile – 1.2 mL	ILM011
U-[$^{13}C_{17}$]-Aflatoxin G1	0.5 µg/mL in acetonitrile – 1.2 mL	ILM012
U-[$^{13}C_{17}$]-Aflatoxin G2	0.5 µg/mL in acetonitrile – 1.2 mL	ILM013
U-[$^{13}C_{17}$]-Aflatoxin M1	0.5 µg/mL in acetonitrile – 1.2 mL	ILM-021-1.2ML
U-[$^{13}C_{19}$]-Diacetoxyscirpenol	25 µg/mL in acetonitrile – 1.2 mL	ILM-020-1.2ML
U-[$^{13}C_{13}$]-Citrinin	10 µg/mL in acetonitrile – 1.2 mL	ILM026-1.2ML
U-[$^{13}C_{20}$]-Cyclopiazonic acid	10 µg/mL in acetonitrile – 1.2 mL	ILM027-1.2ML
U-[$^{13}C_{15}$]-Deoxynivalenol	25 µg/mL in acetonitrile – 1.2 mL	002005
U-[$^{13}C_{34}$]-Fumonisin B1	25 µg/mL in acetonitrile/water – 1.2 mL	ILM003
U-[$^{13}C_{34}$]-Fumonisin B2	10 µg/mL in acetonitrile/water – 1.2 mL	ILM004
U-[$^{13}C_{34}$]-Fumonisin B3	10 µg/mL in acetonitrile/water – 1.2 mL	ILM005
U-[$^{13}C_{22}$]-HT-2 Toxin	25 µg/mL in acetonitrile – 1.2 mL	ILM008
U-[$^{13}C_{6}$]-Kojic acid (on request)	25 µg/mL in acetonitrile – 1.2 mL	ILM-022-1.2ML
U-[$^{13}N_{5}$]-Meleagrin (on request)	25 µg/mL in acetonitrile – 1.2 mL	ILM-018-1.2ML
U-[$^{13}C_{17}$]-Mycophenolic acid (on request)	100 µg/mL in acetonitrile – 1.2 mL	ILM014
U-[$^{13}C_{15}$]-Nivalenol	25 µg/mL in acetonitrile – 1.2 mL	ILM-019-1.2ML
U-[$^{13}C_{20}$]-Ochratoxin A	10 µg/mL in acetonitrile – 1.2 mL	ILM007
U-[$^{13}C_{7}$]-Patulin	25 µg/mL in acetonitrile – 1.2 mL	ILM-015-1.2ML
U-[$^{13}C_{22}$]-Roquefortine C (on request)	25 µg/mL in acetonitrile – 1.2 mL	ILM-016-1.2ML
U-[$^{13}C_{18}$]-Sterigmatocystin (on request)	25 µg/mL in acetonitrile – 1.2 mL	ILM-017-1.2ML
U-[$^{13}C_{24}$]-T-2 Toxin	25 µg/mL in acetonitrile – 1.2 mL	002044
U-[$^{13}C_{18}$]-Zearalenone	25 µg/mL in acetonitrile – 1.2 mL	ILM009

Ordering Information – Stable Isotope Labeled Calibrant Mixtures (Mycotoxins)

Product	Description	Item Number
MIX 10 (^{13}C Fusarium Toxins)	25 µg/mL DON & HT-2, 1 µg/mL T-2, 3 µg/mL ZON in acetonitrile – 1.2 mL	ILM025-1.2ML
MIX 11 (^{13}C Aflatoxins)	0.5 µg/mL each in acetonitrile – 1.2 mL	ILM024-1.2ML
MIX 12 (^{13}C Fumonisins)	5 µg/mL each in acetonitrile – 1.2 mL	ILM023-1.2ML

Ordering Information – Stable Isotope Labeled Calibrants (Drug Residues & Contaminants)

Product	Description	Item Number
U-[$^{13}C_{11}$]-Chloramphenicol	25 µg/mL in acetonitrile – 1.2 mL	ANT-006-1.2ML
U-[$^{13}C_{62}$]-Cyclosporine A	25 µg/mL in acetonitrile – 1.2 mL	ANT-003-1.2ML
U-[$^{13}C_{17}$]-Griseofulvine	25 µg/mL in acetonitrile – 1.2 mL	ANT-001-1.2ML
U-[$^{13}C_{22}{}^{15}N_{2}$]-Oxytetracycline	2.5 µg/mL dried down – 5 x 1 mL	ANT-010
U-[$^{13}C_{22}{}^{15}N_{2}$]-Tetracycline	2.5 µg/mL dried down – 5 x 1 mL	ANT-008
U-[$^{13}C_{3}$]-Melamine	100 µg/mL in acetonitrile/water – 1.2 mL	CMT002

PI_13C-Iso labeled calibrants_EN_1115_LKU

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