M1STANDARD

Product Code: P42

Standard solution at 1000 ng/ml for aflatoxin M1 determination.
For *in vitro* use only.

P42/V9/03.09.18

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RHÔNE LTD

Contents

Intended Use

The ready-to-use mycotoxin standard solution is at a concentration of 1,000 ng/ml and can be used to prepare a calibration curve for the HPLC or LC-MS/MS system, ensuring accurate determination of the toxin with minimal preparation. The standard can also be used to spike samples in order to check the extraction efficiency of the toxin from certain foods using a particular solvent, or alternatively, to spike sample extracts.

Reagents Not Provided

- Distilled / Deionised Water (suitable for use with HPLC, e.g. MilliQ)
- Solvents (HPLC Grade Methanol and Acetonitrile)

Hazards

Mycotoxin standards are very hazardous substances and are covered by Control of Substances Hazardous to Health (COSHH) regulations. Therefore, strict procedures apply to the handling of this material. Only laboratories equipped to handle toxic materials and solvents should perform analyses. Suitable protective clothing, including gloves, safety glasses and lab coats should be worn throughout the analysis.

Flammable solvents should be stored in an explosion-proof cabinet. Use a chemical hood and protective equipment as applicable.

Mycotoxin standards may be harmful if swallowed, inhaled or absorbed through the skin. If the standard is swallowed, wash out mouth with water. If inhaled, proceed immediately to a fresh air environment. In case of contact with skin wash the affected area with water. In serious instances seek medical attention.

A Material Safety Data Sheet is included for further information if required.

Not for Human or Drug Use

Decontamination

Prior to disposal, excess standard solutions should be treated with at least one-tenth their volume of 5 % sodium hypochlorite. Labware and contaminated waste should be immersed in 5 % sodium hypochlorite solution for 30 minutes followed by the addition of 5 % acetone for 30 minutes. Flush with copious amounts of water before disposal. After decontamination labware should be thoroughly washed. Incinerate waste if regulations permit.

Storage & Shelf Life

The standard has an expiry of 18 weeks from date of manufacture if stored at 2 - 8 °C. Store the vial in an upright position to reduce contact of the toxin with the stopper.

Calibration Curve

It is recommended to run at least a 3 - 6 point calibration curve. In constructing a suitable curve the levels of the calibration standards should bracket or include the range of expected results. The diluted standard solutions should be prepared fresh on the day of analysis and used within a 24 hour period.

To prepare a three point calibration curve:

1. Standard 3: Take 20 µl of 1,000 ng/ml and make up to 10 ml with water : acetonitrile : methanol (68 : 24 : 8 v/v/v) (equivalent to 2 ng/ml).

2. Standard 2: Take 1 ml at 2 ng/ml and add 1 ml of water : acetonitrile : methanol (68 : 24 : 8 v/v/v) (equivalent to 1 ng/ml).

3. Standard 1: Take 1 ml at 1 ng/ml and add 1 ml of water : acetonitrile : methanol (68 : 24 : 8 v/v/v) (equivalent to 0.5 ng/ml).

4. Inject 100 µl of each solution onto the HPLC system.

Spiking samples for commodity recovery experiments

A known blank sample should be taken and the required volume of sample should be weighed or measured out. The calculated volume of standard should then be added to the sample. The sample should be analysed within approximately 48 hours.

$C1 \times V1 = C2 \times V2$

C1 Concentration of standard to be used for spiking.

V1 Volume of standard to be added to the sample.

C2 Required concentration of sample.

V2 Required volume of sample.

For example, the following method is for spiking liquid milk at 50 ppt aflatoxin M1:

1. Dilute the 1,000 ng/ml standard solution with 100 % acetonitrile to give a 100 ng/ml solution.

2. Measure 50 ml of sample into a glass flask.

3. Add 25 µl of 100 ng/ml standard solution and mix.

4. Calculate the toxin concentration recovered from the sample. If a recovery of 90 % is obtained with a certain commodity it is possible to use a correction factor to obtain a 100 % result. Different correction factors can be used with different commodities to obtain 100 % accuracy.

Quality

RBR products are developed, manufactured, tested and dispatched under an ISO 9001 registered Quality Management System, guaranteeing a consistent product, which always meets our performance specifications. Our products have been used in many collaborative studies to develop standard European and International Methods and are widely used by key institutions, food companies and government laboratories. Customer references for RBR products are available on request.

Technical support

RBR understand that from time to time users of our products may need assistance or advice. Therefore, we are pleased to offer the following services to our customers:

- Analysis of problem samples.
- Application notes for difficult samples.
- References from the RBR library.
- Installation and support of the KOBRA® CELL.
- Advice on detection parameters.
- Advice on preparation and handling of standards.
- Updates on legislation, sampling and other news by e-mail.
- Provision of spiked samples.

Please contact your local R-Biopharm distributor for further information.

Warranty

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