

Analytical information

Name: Quality Controlled standard of Microcystin-YR

Code: 00-MCYR

Batch: 20-001

General description:

Product Specification	
MOLECULAR FORMULA:	$C_{52}H_{72}N_{10}O_{13}$
MOLECULAR WEIGHT:	1045.205
MONOISOTOPIC MW	1044.528
CAS NUMBER:	101064-48-6
SOURCE/HOST:	Cultures of <i>Microcystis aeruginosa</i>
CONCENTRATION:	$(10.9 \pm 0.5) \mu\text{g/mL}^{\dagger}$
PURITY:	$\geq 97 \%^{\dagger}$
FORMULATION:	Liquid. In acetonitrile 50% (v/v)
SHIPPING:	SHIPPED ON ICE
LONG TERM STORAGE:	-20 °C
HAZARD:	See MSDS.

[†] MC-YR was purified via preparative chromatography from batch cultures of the cyanobacterium *Microcystis aeruginosa*. Analytical UPLC-MS/MS were used to quantify and check purity.

Instructions for proper handling use: 00-MCYR is presented in amber argon-filled glass sealed ampoules. This material contains toxic material, and should be handled with care. Read MSDS before using. Material Safety Data sheet for information regarding 00-MCYR enclosed in the package. Use proper disposal methods.

Before opening an ampoule it must be guaranteed that the content is a liquid and properly mixed to ensure homogeneity. Sample aliquots for analysis should be withdrawn at 15 °C to 25 °C immediately after opening the ampoules and should be processed without delay for the certified value to be valid within the stated uncertainty. Ampoule should not remain open longer than few minutes due to solvent volatility and air contamination.

Instructions for appropriate conditions of storage: The original ampoule should be stored at temperatures below/at -20 °C (freezer) until use. Unopened ampoules should be stored upright under normal laboratory conditions inside the original container supplied.

Property values:

Date of analysis:	September, 24 th 2020
Concentration of <u>Microcystin-YR</u> in acetonitrile 50% solution	$(10.9 \pm 0.5) \mu\text{g} / \text{mL}$

Estimated uncertainty corresponds to a level of confidence in terms of one standard deviation.

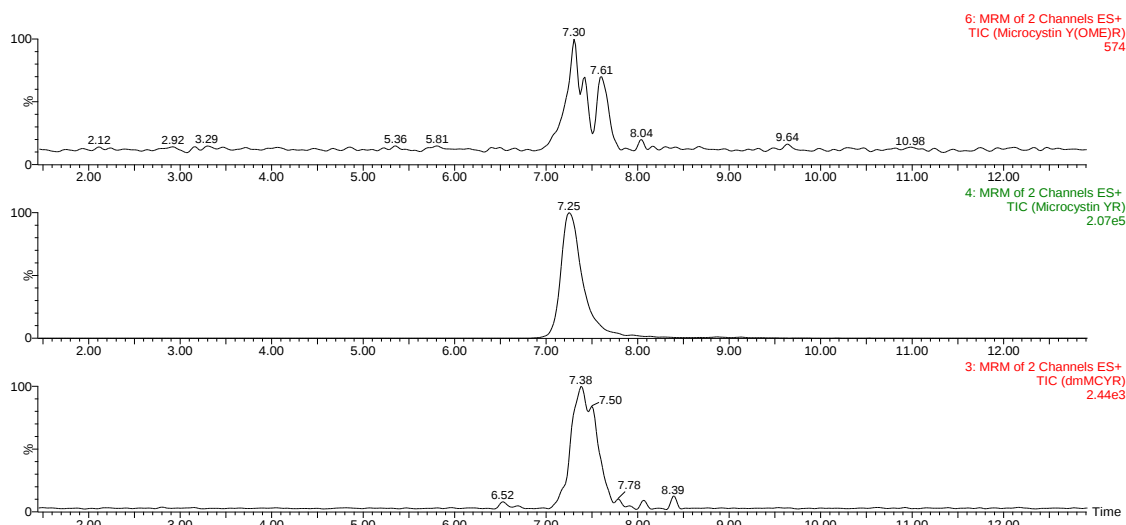


Figure 1. Analysis of the 00-MCYR solution by UPLC-MS/MS. Conditions: ACQUITY UPLC HSS T3 1.7 μ m, 100x2.1 mm, UPLC column. Elution conditions, gradient mode with mobile phases: (A) Water and (B) Acetonitrile, both with 0.1% formic acid; Gradient: 0 min 30% B; 4.0 min 30% B; 9.0 min 35% B; 11 min 35% B; flow rate: 0.30 mL/min. Temperature: 30°C. MS detector: Waters XEVO TQ using the typical MRM transitions of microcystins toxin group found in the bibliography.

Table 1. Impurities content[†] in Quality Controlled standard of 00-MCYR, batch 20-001.

Compound	rt / min	Relative %	μ g/mL [†]
MC-Y(OMe)R	7.30	0.5 %	0.06 $\pm$ 0.01
dm-MCYR	7.38	2.4 %	0.28 $\pm$ 0.03

[†] Impurities batch concentration was settled by UPLC MS/MS versus MC-YR calibration curve where the assumption of an equal response factor for toxin quantification was performed.

Table 2. Molecular 2D structure.

Name	Microcystin-YR
2D Structure	

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This Analytical Information is only valid if the product was obtained directly from Laboratorio CIFGA S.A. or one of our authorized distributors.

Certificate Revision History: <i>October, 13th 2020 (Original certificate issue date, revision 1).</i> <i>November, 5th 2020. Minor editorial changes (certificate rev. 2).</i>

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