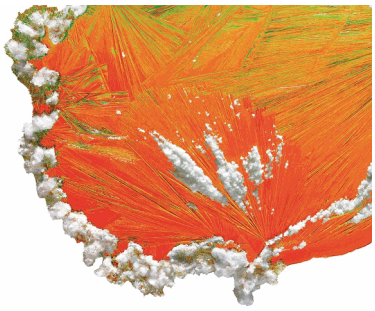


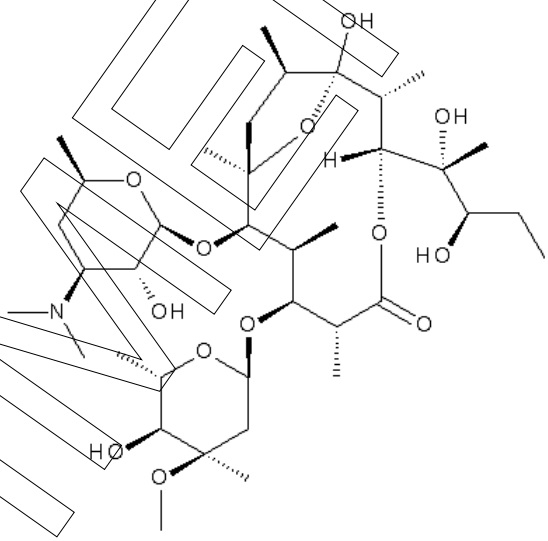
Certificate of Analysis

ISO 9001

Reference Material

Product name

Pseudoerythromycin A Hemiketal



Product code MM0132.25	**Lot number** 1031650
CAS number 105900-46-7	**Appearance** white solid
Molecular weight 733.93	**Melting point (DSC)** 226 °C
Molecular formula $C_{37}H_{67}NO_{13}$	**Long-term storage** 2 to 8 °C, dark

Assay "as is"
98.0 %

Date of shipment: **13 Sep 2019**

Producer confirms that this reference material (RM) meets the specification detailed on this Certificate of Analysis for **two years** from the date of shipment, provided the substance is stored under the recommended conditions unopened in the original container.

Release by:	**Date of Release:**		
Dr. Sabine Schröder	Luckenwalde, 12 Sep 2019		Product Release

Producer:
LGC GmbH
Louis-Pasteur-Str. 30
D-14943 Luckenwalde
Germany
www.lgcstandards.com

Product information

For laboratory use only. Not suitable for human or animal consumption.

Before usage of the RM, it should be allowed to warm to room temperature. No drying required, as the certified value is already corrected for the content of water and other volatile materials.

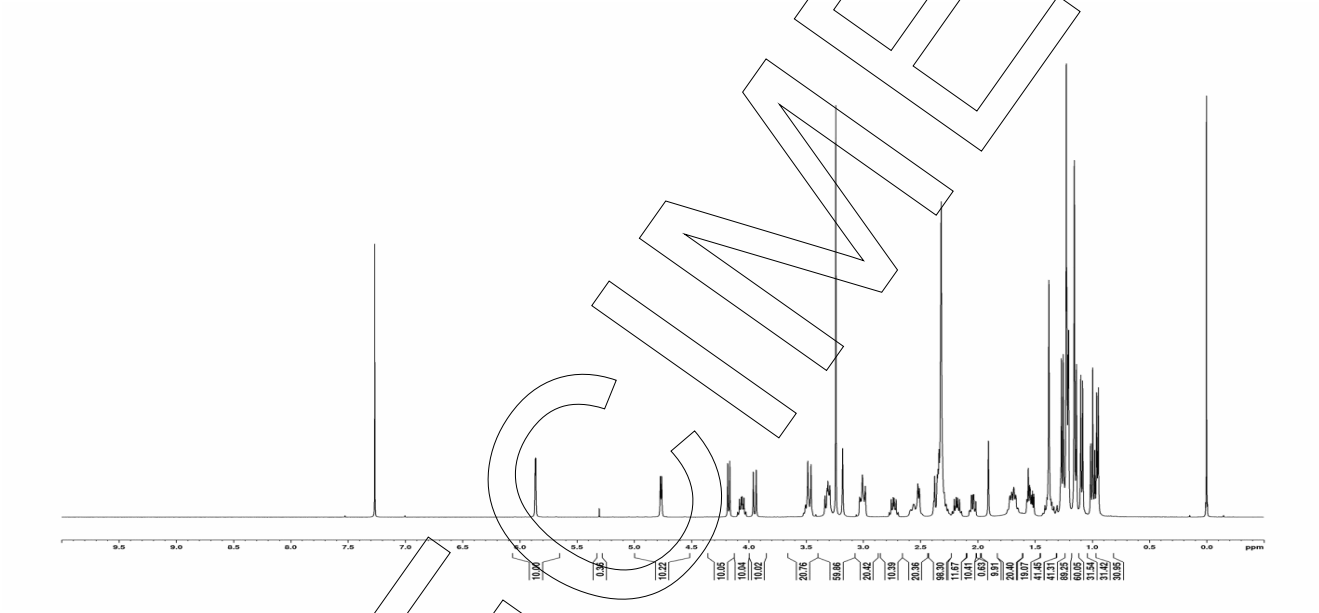
The product quality is controlled by regularly performed quality control tests (retests).

Further content

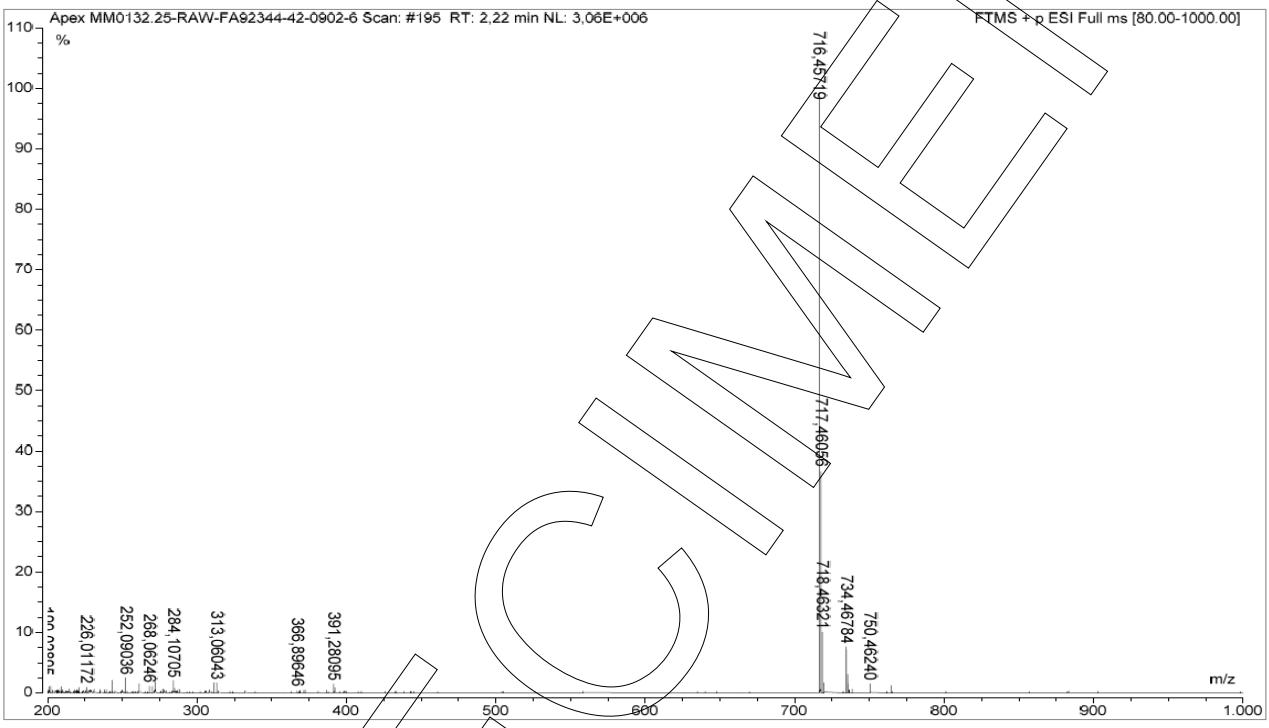
Identity

The identity of the reference material was established by following analyses.

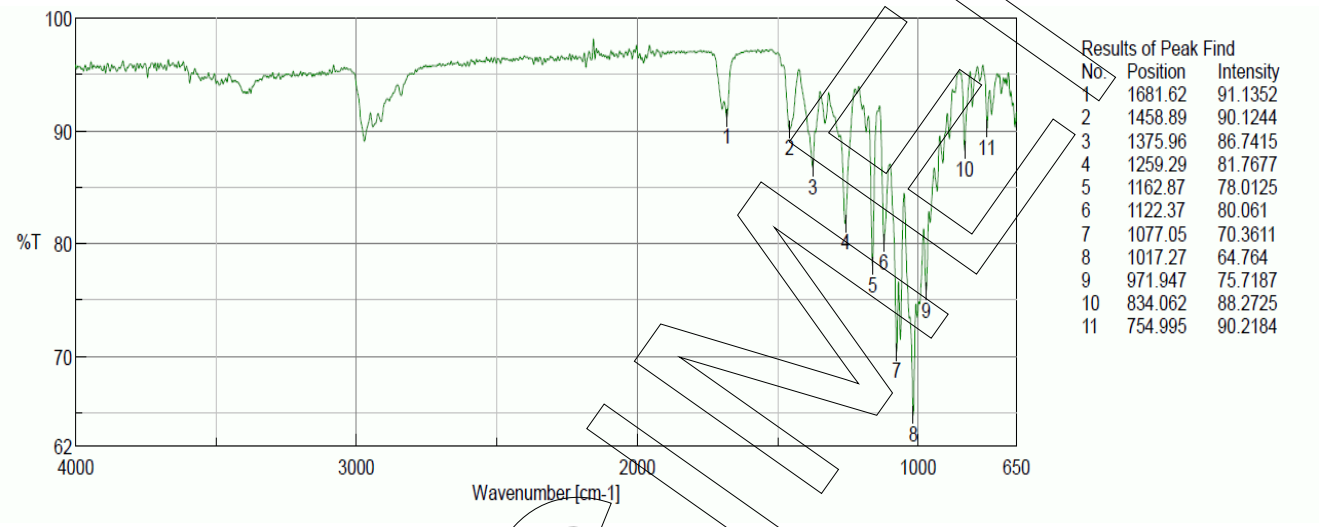
Method	Conditions	Result
^{1}H-NMR	400 MHz, $CDCl_3$	Structure confirmed



Method	Conditions	Result
MS	3.5 kV ESI+; capillary temperature: 269 °C Theoretical value: 734.46852	Structure confirmed



Method	Conditions	Result
IR	Attenuated Total Reflection Fourier Transform Infrared (ATR-FTIR) Spectroscopy	Structure confirmed



Results of Peak Find

No.	Position	Intensity
1	1681.62	91.1352
2	1458.89	90.1244
3	1375.96	86.7415
4	1259.29	81.7677
5	1162.87	78.0125
6	1122.37	80.061
7	1077.05	70.3611
8	1017.27	64.764
9	971.947	75.7187
10	834.062	88.2725
11	754.995	90.2184

Purity

Volatile content

Water content	
Method	Karl Fischer titration
Result (n = 3)	0.08 %; SD < 0.01 %

Residual solvents	
Method	^{1}H-NMR
Result (n = 1)	Sum: 0.33 % 0.21 % Dichloromethane; 0.12 % Acetonitrile

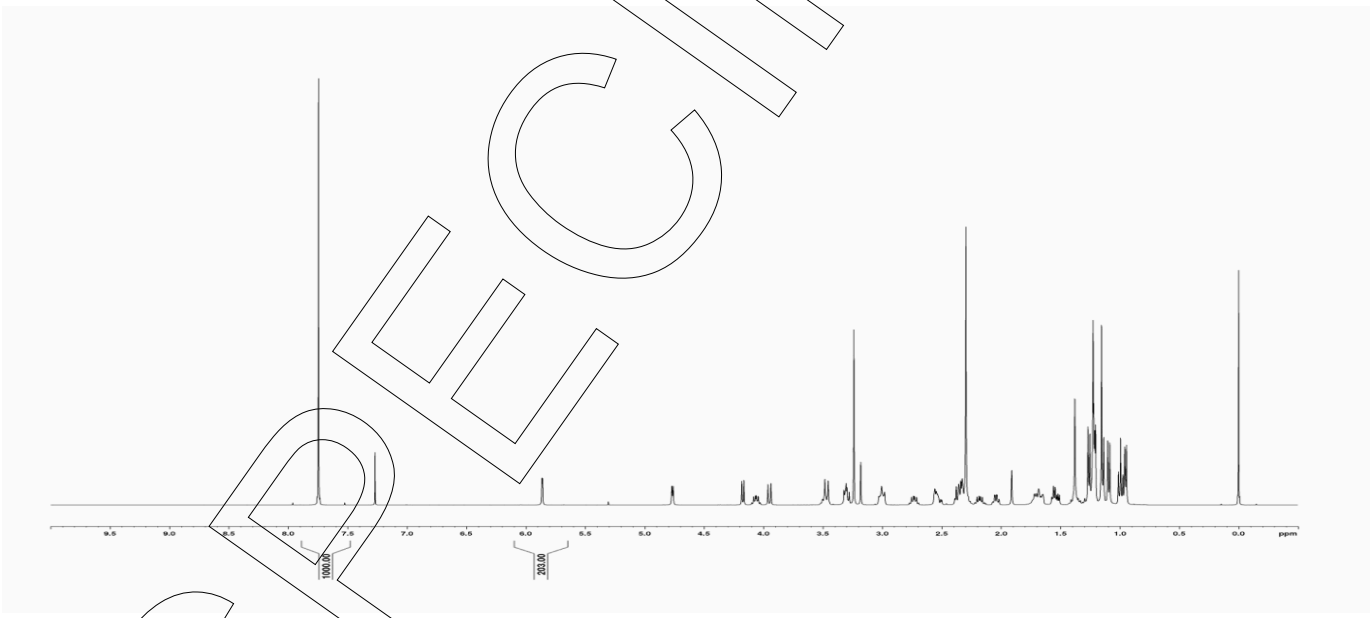
Final result

Assay "as is": **98.02 %**

The assay "as is" is assessed by quantitative NMR spectroscopy and is equivalent to the assay based on the not anhydrous and not dried substance respectively.

Method: Value assigning technique - quantitative NMR spectroscopy	
Conditions	400 MHz, $CDCl_3$
Internal standard	2,3,5,6-Tetrachloro-1-nitrobenzene (certified reference material), signal 7.5 - 7.9 ppm, 1 H
Result (mass fraction, **n = 6**)	98.02 %

Quantitative NMR spectrum



Revision table

Revision	Date	Reason for revision
00	12 Sep 2019	Release of the Certificate of Analysis - initial version

Product warranties for the RM are set out in the terms and conditions of purchase.