

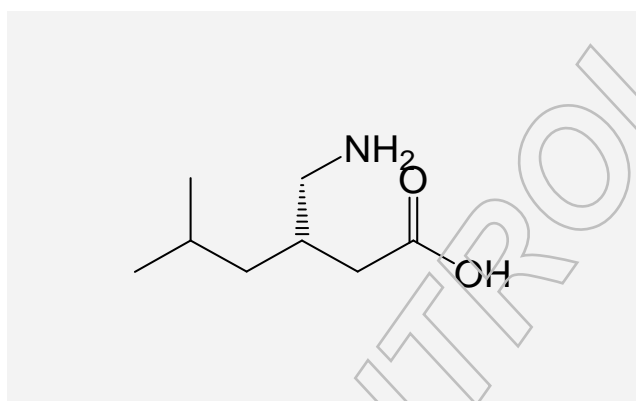
Certificate of Analysis

Reference Substance

Pregabalin

Catalogue Number: LGCFOR1376.00
Lot Number: 31628
Molecular Formula: C₈H₁₇NO₂
Molecular Weight: 159.23
CAS Number: [148553-50-8]

Long-term Storage: 2 to 8 °C, dark
Appearance: white solid
Melting Point: 175 °C
Assay 'as is': 98.7 %



Date of shipment: **2016-May-20**

This certificate is valid for two years from the date of shipment provided the substance is stored under the recommended conditions.

Release Date: 2013-06-13

LGC GmbH

Dr. Sabine Schröder
Product Release

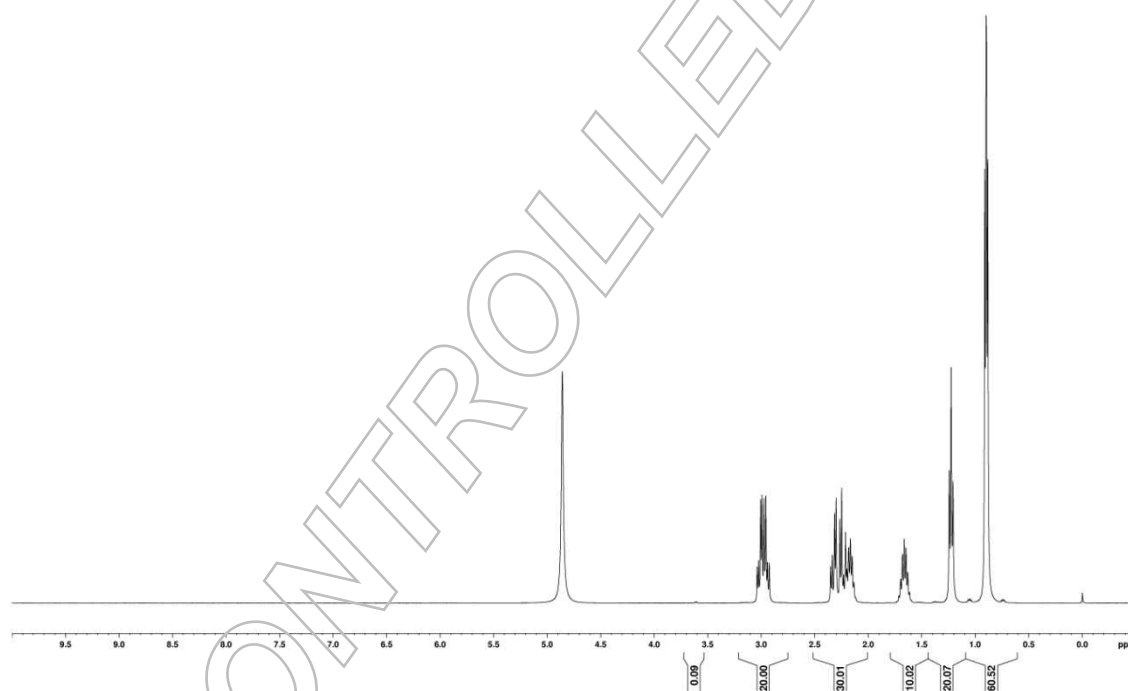
I. Identity

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

Ia. ¹H-NMR Spectrum

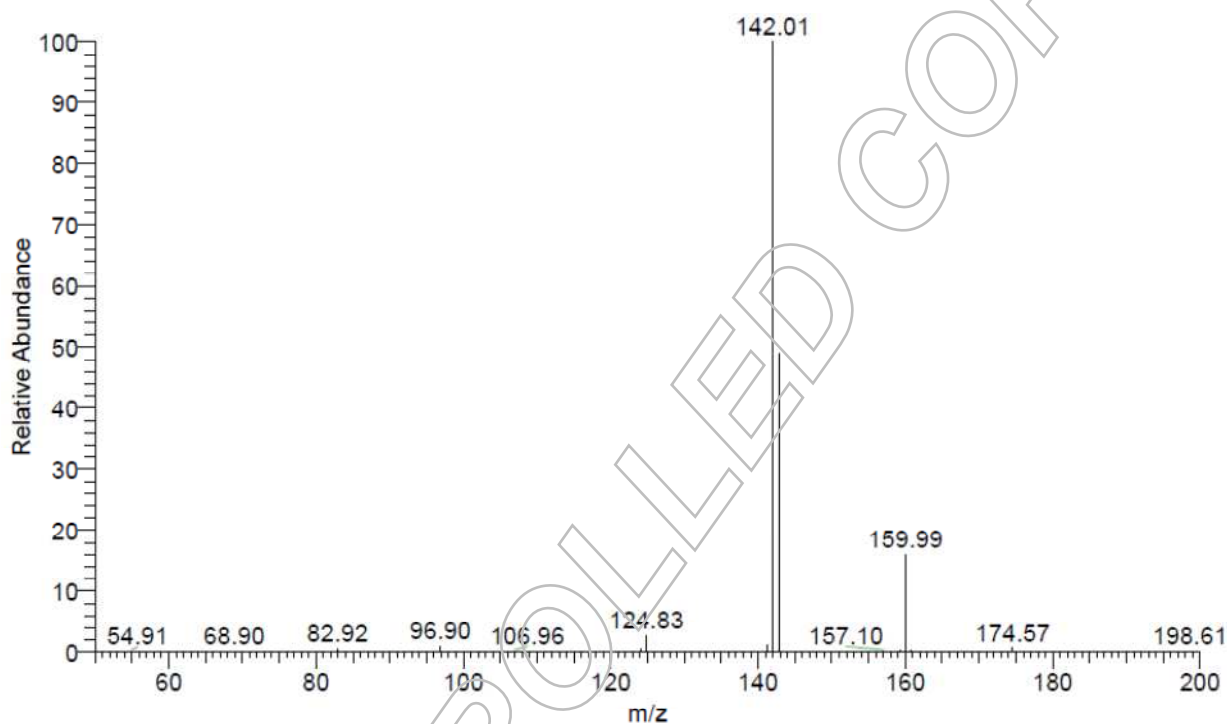
Conditions: 400 MHz, D₂O

The structure is confirmed with the signals of the spectrum and their interpretation.



1b. Mass Spectrum

Method: 4.5 kV ESI; vaporization temperature: 200 °C, direct inlet

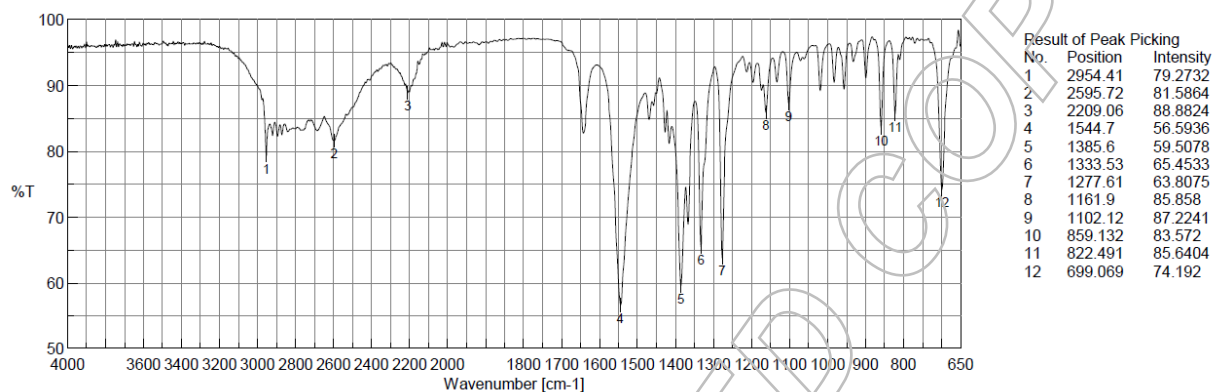


m/z	fragments
160	[MH]
142	[MH – H ₂ O]

The signals of the mass spectrum and their interpretation are consistent with the structural formula.

Ic. IR Spectrum

Method: Attenuated Total Reflection Fourier Transform Infrared (ATR-FTIR) Spectroscopy



The signals of the IR spectrum and their interpretation are consistent with the structural formula.

Id. Optical Rotation

$$[\alpha]_D^{20} = +10.50^\circ \text{ (c = 1 in H}_2\text{O)}$$

II. Purity

The purity of the reference substance was analysed by high performance liquid chromatography (HPLC).

HPLC Conditions:

Column:

LGC-ODS
5 µm, 250 x 4.6 mm

Conditions:

1.0 ml/min, 30 °C
mob. Phase A: 1.2 g/l KH₂PO₄ pH 6.9
mob. Phase B: Acetonitrile

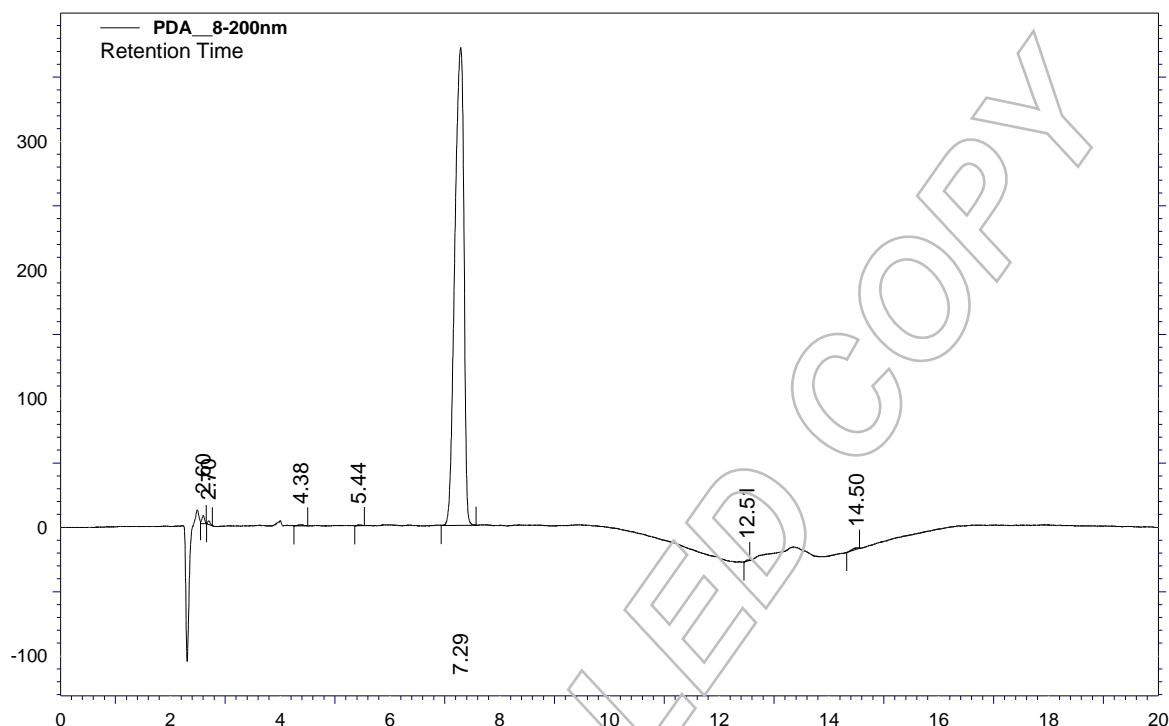
Detector:

DAD
200 nm

Injector:

Auto
20 µl; 3.128 mg/ml in
Water

0 – 6 min	A/B	90/10
6 – 9 min	A/B	to 70/30
9 – 11 min	A/B	to 90/10
11 – 20 min	A/B	90/10 (v/v)



Area Percent Report - Sorted by Signal

Pk #	Retention Time	Area	Area %
1	2.60	20717	0.48
2	2.70	8461	0.20
3	4.38	5777	0.13
4	5.44	3294	0.08
5	7.29	4255458	98.83
6	12.51	3044	0.07
7	14.50	9276	0.22
Totals		4306027	100.00

For the calculation the system peaks were ignored. The content of the analyte was determined as ratio of the peak area of the analyte and the cumulative areas of the purities, added up to 100 %.

Results:

Average 98.79 %
Number of results n=3
Standard deviation 0.09 %

III. Water Content

Method: Karl Fischer titration

Results:

Average	0.11 %
Number of results	n=3
Standard deviation	0.02 %

IV. Residual Solvents

Method: ¹H-NMR

No significant amounts of residual solvents were detected (< 0.05 %).

V. Final Result

Total impurities (HPLC)	1.21 %
Water content	0.11 %
Residual solvents	n. d. (not detected)
Assay (100 % method) ¹	98.68 %

The assay is assessed to be 98.7 % 'as is'

The assay 'as is' is equivalent to the assay based on the not anhydrous and not dried substance respectively.

¹ The calculation of the 100 % method follows the formula:

$$\text{Assay (\%)} = (100 \% - \text{KF} - \text{RES}) * \frac{\text{Purity HPLC (\%)}}{100 \%}$$

Water (KF) and Residual solvents (RES) are considered as absolute contributions, HPLC purity is considered as relative contribution.

LGCFOR1376.00 Lot Number 31628

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