

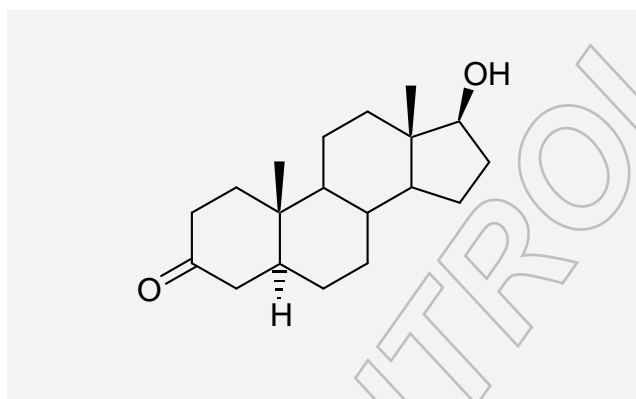
Certificate of Analysis

Reference Substance

Androstanolone (5 α -Dihydrotestosterone; Stanolone)

Catalogue Number: LGCFOR0565.00
Lot Number: 7688
Molecular Formula: C₁₉H₃₀O₂
Molecular Weight: 290.44
CAS Number: [521-18-6]

Long-term Storage: 2 to 8 °C, dark
Appearance: white solid
Melting Point: 182 °C
Assay 'as is': 98.1 %



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: 2011-05-12

LGC GmbH

Dr. Sabine Schröder
Product Release

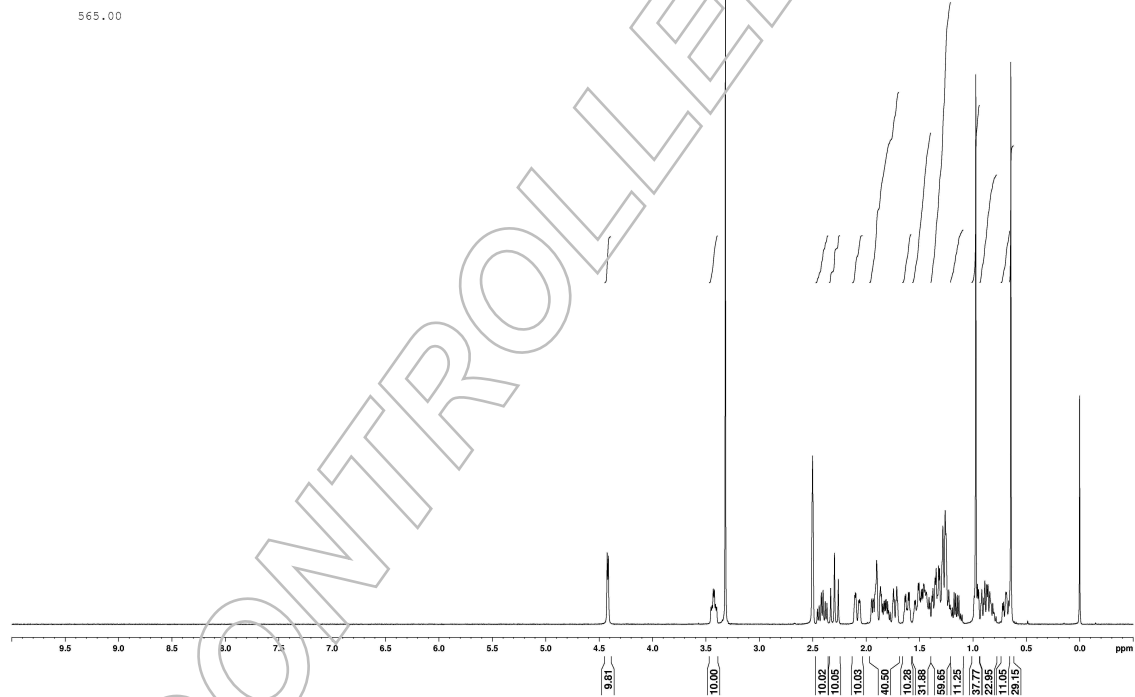
I. Identity

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

Ia. ¹H-NMR Spectrum

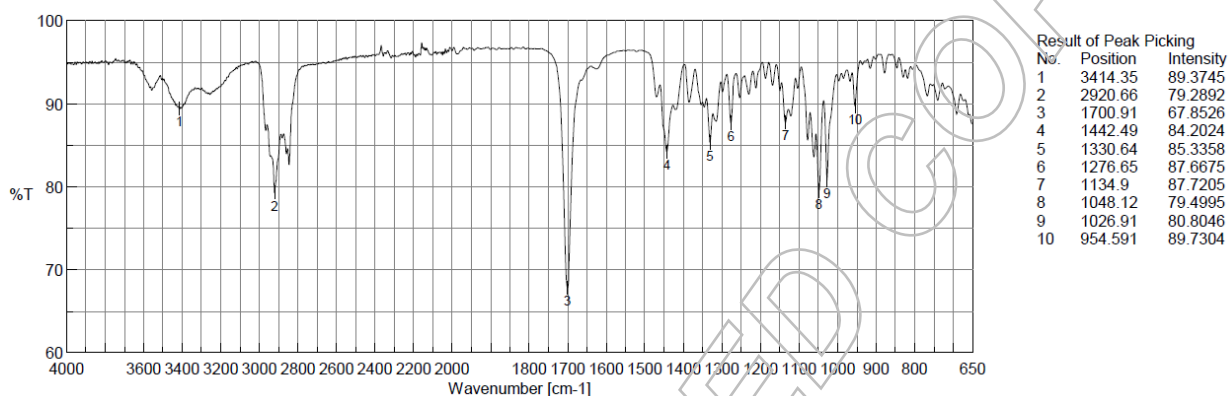
Conditions: 400 MHz, DMSO-d₆

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



Ib. 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.

II. Purity

The purity of the reference substance was analysed by gas chromatography (GC).

GC Conditions:

Column:

HP-5MS
30 m x 0.25 mm x 0.25 µm

Injector and Flow:

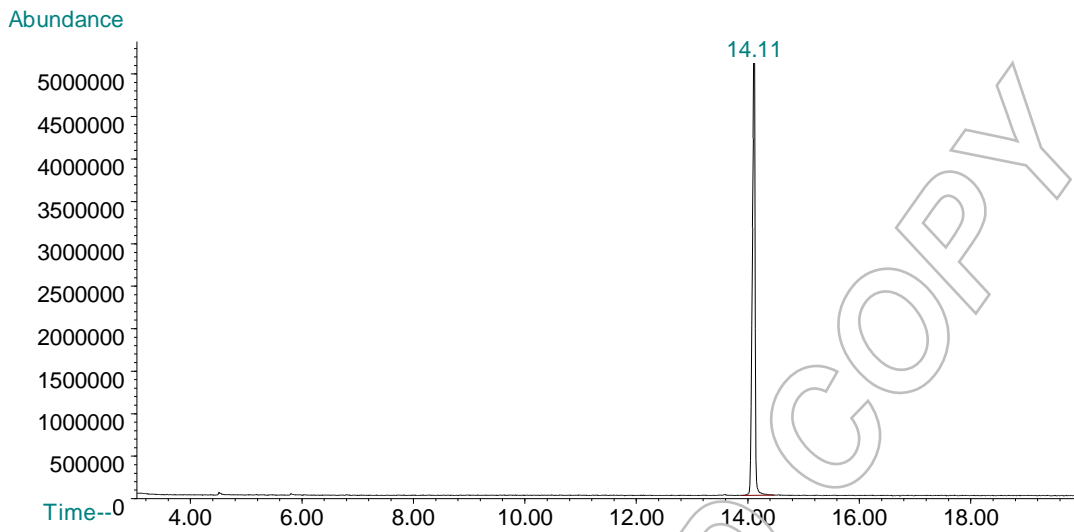
splitless Injection, 220 °C
Helium 1.50 ml/min

Oven Program:

Initial Temp.: 70 °C for 3 min
Heating Rate: 30 °C/min
Final Temp.: 250 °C

Detector:

EI, 70 eV
30 to 550 amu
280 °C



Area Percent Report - Sorted by Signal

Pk #	Retention Time	Area	Area %
1	14.114	175680473	100.00
Totals		175680473	100.00

For the calculation the air 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 100 %
 Number of results n=3
 Standard deviation < 0.01 %

III. Water Content

Method: Karl Fischer titration

Results:

Average 1.90 %
 Number of results n=3
 Standard deviation 0.05 %

IV. Residual Solvents

Method: ¹H-NMR

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

V. Final Result

Total impurities (GC)	0.00 %
Water content	1.90 %
Residual solvents	n. d. (not detected)
Assay (100 % method) ¹	98.10 %

The assay is assessed to be 98.1 % 'as is'

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

The calculation of the 100 % method follows the formula:

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

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

LGCFOR0565.00 Lot Number 7688

LGC GmbH, Im Biotechnologiepark, TGZ II, D-14943 Luckenwalde, Germany

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