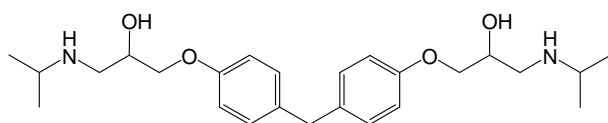


## Reference Substance

(*RS*)-1-[4-[4-(2-Hydroxy-3-isopropylamino-propoxy)benzyl]phenoxy]-3-isopropylaminopropan-2-ol



Molecular Formula:  $C_{25}H_{38}N_2O_4$   
Molecular Weight: 430.58  
CAS Number: [ unlisted ]

Catalogue Number: 460.15  
Lot Number: 460.15.08.01  
Long Term Storage: 2 to 8 °C, dark  
Appearance: white solid  
Melting Point: 96 °C  
Assay 'as is': 98.1 %

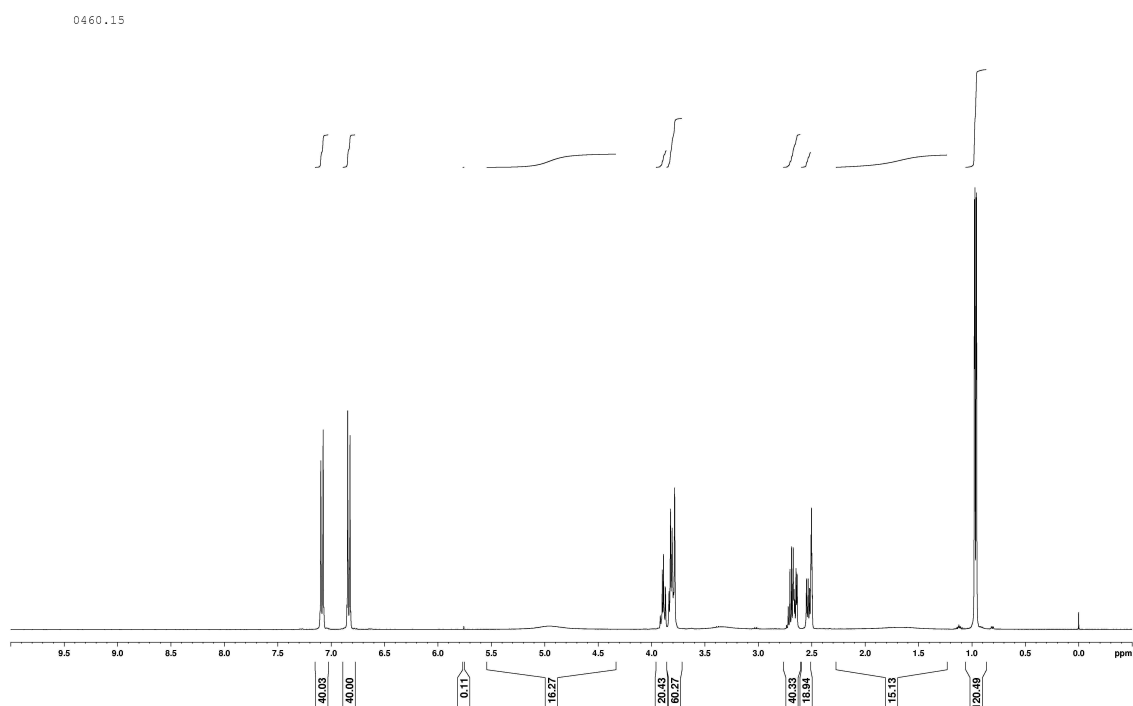
Date of shipment: **2008-06-23**

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

## I. Identity

The identity of the reference substance was established by  $^1\text{H-NMR}$  spectroscopy. The structure is confirmed with the signals of the spectrum and their interpretation.

Conditions: 400 MHz,  $\text{DMSO-d}_6$

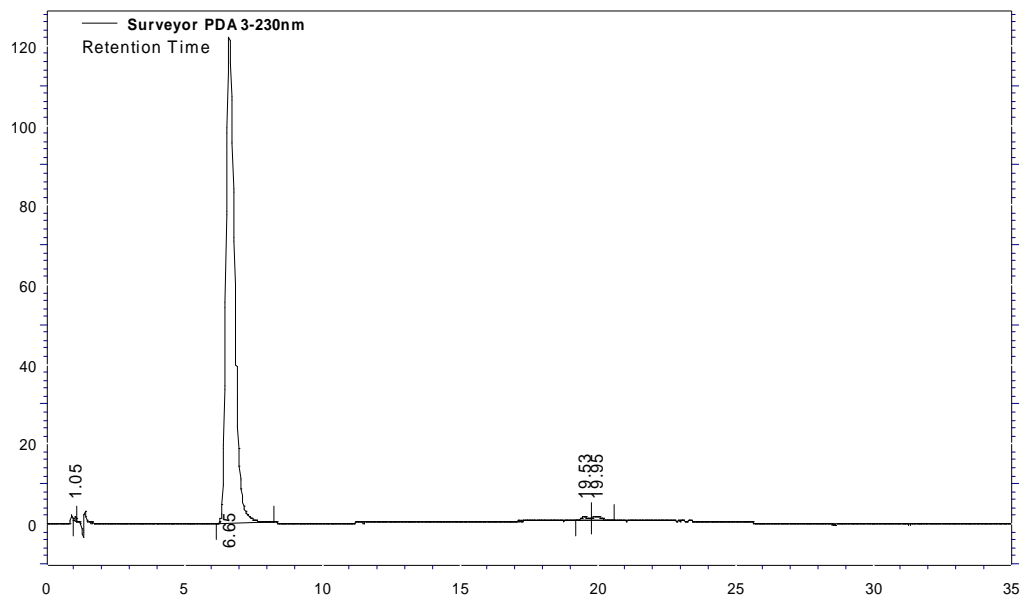


## II. Purity

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

### HPLC Conditions:

Column:	Conditions:	Detector:	Injector:
RP 60 Select B	1.0 ml/min, 40 °C	DAD	Auto
5 $\mu\text{m}$ , 125 x 4 mm	0 – 6 min Water/Acetonitrile 80/20	230 nm	8 $\mu\text{l}$ ; 0.028 mg/ml in
	6 – 15 min Water/Acetonitrile to 70/30		Water/Acetonitrile 50/50 (v/v);
	15 – 20 min Water/Acetonitrile 70/30		0.1 % $\text{H}_3\text{PO}_4$
	20 – 25 min Water/Acetonitrile to 80/20		
	25 – 35 min Water/Acetonitrile 80/20 (v/v);		
	0.1 % $\text{H}_3\text{PO}_4$		



**Area Percent Report - Sorted by Signal**

Pk #	Retention Time	Area	Area %
1	1.05	3004	0.11
2	6.65	2577246	98.38
3	19.53	16222	0.62
4	19.95	23120	0.88
Totals		2619592	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**                    98.39 %  
**Number of results**        n=6  
**Standard deviation**        0.03 %

### III. Water Content

Method: Karl Fischer titration

#### Results:

Average	0.17 %
Number of results	n=3
Standard deviation	0.01 %

### IV. Residual Solvents

Residual solvents were determined by <sup>1</sup>H-NMR.

Result: 0.11 % Dichloromethane

### V. Final Result

Total impurities (HPLC)	1.61%
Water content	0.17%
Residual solvents	0.11%
Assay (100 % method)	98.11%

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.

Release Date: 2008-04-01

LGC GmbH  
Dr. Karina Dreiseidler  
Quality Control