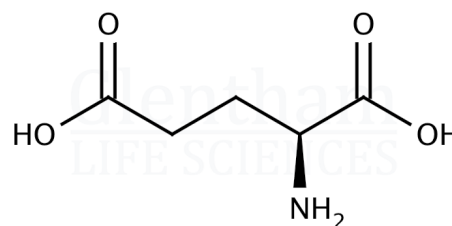


Certificate of Analysis

Product Name	L-Glutamic acid, GlenCell™, suitable for cell culture
Glentham Code	GM8976
CAS Number	56-86-0
EINECS	200-293-7
MDL-Nummer	MFCD00002634
Batch Number	761NYU

Molecular Weight	147.13
Molecular Formula	C ₅ H ₉ NO ₄
Storage Temp.	+20°C



Property	Specification	Batch 761NYU
Physical Description	White crystalline powder	Entspricht
Identification	To pass tests	Entspricht
Solubility (5% in water)	Clear, colourless solution	Entspricht
pH (1% in water)	3.0 - 3.5	3.3
Transmittance	≥ 98.0% (5% in water, 430nm, 10mm cell)	Entspricht
Specific Optical Rotation ([α] _D 20/D)	+31.5 - +32.2 °	+32.1°
Chloride (Cl)	≤ 0.02%	Entspricht
Sulphate (SO ₄)	≤ 0.02%	Entspricht
Ammonium (NH ₄)	≤ 0.02%	Entspricht
Iron (Fe)	≤ 10ppm	Entspricht
Arsenic (As ₂ O ₃)	≤ 1ppm	Entspricht
Heavy Metals (as Pb)	≤ 5ppm	Entspricht
Any Individual Impurity	≤ 0.2%	0.08% (max.)
Total Impurities	≤ 0.6%	0.08%
Sulphated Ash	≤ 0.1%	0.04%
Loss on Drying	≤ 0.5%	0.04%
Endotoxins	≤ 6EU/g	≤ 6EU/g
Assay	99.0 - 101.0 % (dried basis)	99.6%
Pharmacopoeia Specification(s)	EP	Conforms to EP
Origin	Non-animal origin	Entspricht

Specification Version	v1.0
Manufacture Date	2017-03-09
Re-Test Date	2029-12-21

Glentham Life Sciences confirm that the above referenced product conformed to the information displayed in this document on the quality release date. Please check www.glentham.com or contact us using the details above for the current version of this document.

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