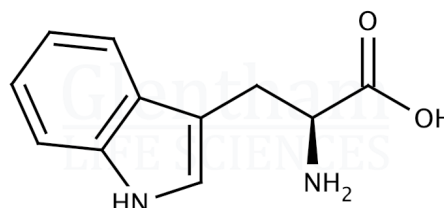


Certificate of Analysis

Product Name	L-Tryptophan, GlenCell™, suitable for cell culture
Glentham Code	GM0192
CAS Number	73-22-3
EINECS	200-795-6
MDL Number	MFCD00064340
Batch Number	8710VB
Molecular Weight	204.23
Molecular Formula	C ₁₁ H ₁₂ N ₂ O ₂
Storage Temp.	+20°C



Property	Specification	Batch 8710VB
Physical Description	White to light yellow crystals or crystalline powder	White crystalline powder
Identification (IR)	To conform to standard	Conforms
Solubility	Sparingly soluble in water, slightly soluble in ethanol	Conforms
Solubility (1% in 1M HCl)	Clear, colourless to yellow solution	Clear, colourless solution
Transmittance	≥ 95.0% (2.5% in water, 430nm, 10mm cell)	Conforms
Specific Optical Rotation	-30.5 - -32.5 ° (C=1, H ₂ O)	-31.8 °
Chloride (Cl)	≤ 0.02%	Conforms
Ammonium (NH ₄)	≤ 0.02%	≤ 0.005%
Sulphate (SO ₄)	≤ 0.02%	Conforms
Iron (Fe)	≤ 10ppm	Conforms
Heavy Metals (as Pb)	≤ 10ppm	≤ 5ppm
Arsenic (As ₂ O ₃)	≤ 1ppm	Conforms
Related Substances	To pass test	Conforms
Loss on Drying	≤ 0.2%	0.0%
Sulphated Ash	≤ 0.1%	0.02%
pH	5.5 - 6.4 (1% in water)	6.1
Endotoxins	≤ 6.0EU/g	Conforms
Assay	99.0 - 101.0 %	100.2%
Pharmacopoeia Specification(s)	USP, EP	Conforms

Specification Version	v1.0
Manufacture Date	2021-02-10
Re-Test Date	2032-07-18

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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