


## Certificate of Analysis PHARMA-ULTRA-USP-NF

Lot #30622403

Test	Specification per USP	Result
FTIR Identity	Match Accepted Reference	PASS – Conforms
USP ID Testing	Gelatinous Mass	PASS
<b>Tunable Properties</b>		
Degree of Deacetylation	NLT 70.0% NMT 95.0%	PASS – 94.1%
Molecular Weight (kDa)	Report	53 kDa by Inherent Viscosity*
<b>Impurities</b>		
Residue on Ignition	NMT 1.0%	PASS – 0.6%
Loss on Drying	NMT 5.0%	PASS – 3.3%
Residual Protein	NMT 0.2%	PASS – < LOD
Tropomyosin (Allergen) Content	NMT 1 ppm*	PASS – < 1 ppm
<b>Heavy Metal</b>		
Lead (Pb)	≤ 0.5 ppm	PASS – 0.0 ppm
Mercury (Hg)	≤ 0.2 ppm	PASS – 0.0 ppm
Chromium (Cr)	≤ 1.0 ppm	PASS – 0.6 ppm
Nickel (Ni)	≤ 1.0 ppm	PASS – 1.0 ppm
Cadmium (Cd)	≤ 0.2 ppm	PASS – 0.2 ppm
Arsenic (As)	≤ 0.5 ppm	PASS – 0.0 ppm
Iron (Fe)	≤ 10 ppm	PASS – 2 ppm
<b>Biological Testing</b>		
Endotoxins	NMT LOD	PASS – < 100 EU/mL PASS – < 100 EU/g
Aerobic Plate Count	≤ 2000 cfu/g	PASS
Mold & Yeast	≤ 200 cfu/g	PASS
Pseudomonas aeruginosa	Absent	PASS
Staphylococcus aureus	Absent	PASS
<b>Physical Properties</b>		
Appearance	Report*	White Powder
Appearance in Solution	Report*	Clear in 1% Acetic Acid
Solubility	Report*	1% Loading in 1% Acetic Acid

\*non-USP testing

 Manufactured on Jun 22, 2023  
Made in South Carolina, USA

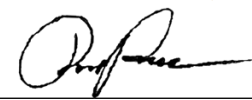
Testing and Analysis Performed by Parimer Scientific  
Retest after 3 years



Victoria B. Pruitt, PhD JAN/24/2024




Richard T. Pace, PhD JAN/24/2024



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330 3rd Street • Balaton, MN 56115 USA  
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