



Certificate of Analysis

Name	Hyaluronic Acid	Grade	Food Grade
M.W.	1.5-2.0 MDa	Test Method	GB/T 4576-2013
Lot No.	20210821F1	Report Date	2021/08/22
MFG Date	2021/08/21	EXP Date	2023/08/20

	Test Items	Specification	Results
1	Appearance	White or almost white powder or granules	Complies
2	Infrared absorption	Positive	Complies
3	Reaction of sodium	Positive	Complies
4	Bulk Density	$\geq 0.2\text{g}/\text{cm}^3$	$0.23\text{g}/\text{cm}^3$
5	Absorbance	≤ 0.25	0.06
6	Transparency	$\geq 99.0\%$	99.7%
7	Ph	6.0~7.5	6.4
8	Intrinsic viscosity	23.64-29.59 dL/g	25.22dL/g
9	Molecular weight	1.5-2.0 MDa	1.63 MDa
10	Kinematic viscosity	Actual value	63.64mm ² /s
11	Mesh	≥ 60	Complies

Purity Test

12	Loss on drying	$\leq 10\%$	9.44%
13	Residue on ignition	$\leq 20\%$	18.72%
14	Heavy metals	$\leq 20\text{ppm}$	<20ppm
15	Arsenic	$\leq 2\text{ppm}$	<2ppm
16	Cadmium	$\leq 0.2\text{ppm}$	<0.2ppm
17	Mercury	$\leq 0.1\text{ppm}$	<0.1ppm
18	Lead	$\leq 0.5\text{ppm}$	<0.5ppm
19	Protein	$\leq 0.1\%$	0.06%
20	Assay	$\geq 95.0\%$	97.0%
21	Glucuronic acid	$\geq 46.0\%$	46.9%

Microbiological Test

22	Total bacterial count	$\leq 100\text{CFU}/\text{g}$	<10CFU/g
23	Yeasts & mold	$\leq 20\text{CFU}/\text{g}$	<10CFU/g
24	E. coli	Negative	Negative



ACROSS BIOTECH

MAKE A DIFFERENCE

25	Staph	Negative	Negative
26	Pseudomonas aeruginosa	Negative	Negative
27	Salmonella	Negative	Negative

Conclusion: The results meet the requirements of the specifications.