

## **CERTIFICATE OF MATERIAL ORIGIN**

Date: 1/31/2020 Revision: 03

**Product:** Poly-L-Lysine, Solution, 0.1 mg/ml

Supplier	Advanced BioMatrix, Inc.	
Supplier Catalog No.	5048	
Supplier Location	California, USA	
Name/Grade	Poly-L-Lysine, Solution, 0.1 mg/ml	
Animal Origin (including human)		
-Animal Species	Not applicable - This product is manufactured solely from synthetic materials and do not contain any raw materials produced or substances derived from animal origin.	
-Tissue Origin	Not applicable	
-County of Origin	Not applicable	
Non-animal Source of Origin		
-Country of Origin	United States	
Animal Origin Material Adventitious	Not applicable	
Agent Risk Reduction Steps		
Method of Manufacturing	Synthetic Processing	
Briefly describe Method of  Manufacturing	Poly-L-lysine is a positively charged amino acid polymer with approximately one HBr per lysine residue. The hydrobromide allows the poly-L-lysine to be in a crystalline form soluble in water. A small amount of product may be found in the beta structure because the HBr interferes with hydrogen bonding between amino and either the carboxyl groups or N or O containing moieties.	

The above information has been completed by an authorized representative of management and is complete and correct to my knowledge.

David Bagley	President	January 31, 2020