



# CERTIFICATE OF MATERIAL ORIGIN

Date: 1/31/2020

Revision: 03

**Product:** Poly-L-Lysine, Powder, 5 mg

<b>Supplier</b>	Advanced BioMatrix, Inc.
<b>Supplier Catalog No.</b>	5173
<b>Supplier Location</b>	California, USA
<b>Name/Grade</b>	Poly-L-Lysine, Powder, 5 mg
<b>Animal Origin (including human)</b>	
-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
<b>Non-animal Source of Origin</b>	
-Country of Origin	United States
<b>Animal Origin Material Adventitious Agent Risk Reduction Steps</b>	Not applicable
<b>Method of Manufacturing</b>	Synthetic Processing
<b>Briefly describe Method of Manufacturing</b>	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.

President

January 31, 2020

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