



# CERTIFICATE OF MATERIAL ORIGIN

Date: 10/27/2017

Revision: 02

**Product:** CDH13, Human, Solution

|   |   |
|---|---|
| <b>Supplier</b>   | Advanced BioMatrix, Inc.  |
| <b>Supplier Catalog No.</b>   | 5125  |
| <b>Supplier Location</b>  | California, USA   |
| <b>Name/Grade</b>   | CDH13, Human, Solution, 0.5 mg/ml   |
| <b>Animal Origin (including human)</b>                                |   |
| -Animal Species   | Not applicable  |
| -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>  | Recombinant and protein expression  |
| <b>Briefly describe Method of Manufacturing</b>                       | Full-length extracellular domain of human CDH13 gene (139-693 aa) was constructed with 31 N-terminal T7/His tag and expressed in E. coli as inclusion bodies. The final product was refolded using our unique "temperature shift inclusion body refolding" technology and chromatographically purified. |

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

**President**

**October 27, 2017**

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