

CERTIFICATE OF MATERIAL ORIGIN

Date: 10/27/2017 Revision: 02

Product: Vitronectin, Human, Solution, Recombinant

| Supplier | Advanced BioMatrix, Inc. |
|-------------------------------------|---|
| Supplier Catalog No. | 5051 |
| Supplier Location | California, USA |
| Name/Grade | Vitronectin, Human, Solution, 0.5 mg/ml, Recombinant |
| Animal Origin (including human) | |
| -Animal Species | Not applicable |
| -Tissue Origin | Not applicable |
| -County of Origin | United States |
| Non-animal Source of Origin | |
| -Country of Origin | United States |
| Animal Origin Material Adventitious | Multiple adventitious agent reduction and |
| Agent Risk Reduction Steps | clearance steps |
| Method of Manufacturing | Recombinant |
| Briefly describe Method of | Recombinant human Vitronectin gene (20-398 aa |
| Manufacturing | Fragment) was constructed with codon optimization and |
| | expressed in non-fusion protein form in E.coli as inclusion |
| | bodies. |
| Raw Material Use in Manufacturing | The raw material source for this product was not produced |
| | or subjected to animal derived protein, serum and enzymes. |
| Raw Material Testing | Not applicable |
| | |

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

duind Bagley

President

October 27, 2017

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