

## Certificate of Analysis

Date of Testing: 2022-07-20 11:09:44  
Date of Next Testing: 2026-07-19 11:09:44  
Product Name: **L-Valine**  
CAS Number: 72-18-4  
Specifications & Purity: from non-animal source, meets EP, JP, USP testing specifications, suitable for cell culture, 98.5-101.0%  
Lot #: G2215783  
SKU #: **V139523**  
Analysis: **102027**

| Parameter  | Limit Values          | Result                |
|--|-----------------------|-----------------------|
| Sulfate(SO <sub>4</sub> <sup>2-</sup> )                                      | 0-0.02 (%)            | 0.01 %                |
| PH(5% in Water)(USP)   | 5.5-7                 | 6.20                  |
| Endotoxin Assay  | 0-1 (EU/mg)           | 0.00 EU/mg            |
| Iron(Fe)   | 0-10 (ppm)            | 5.30 ppm              |
| Specific Rotation [α] <sub>20</sub> /D(c=8 in 6 M HCl / EP in JP)            | 27.6-28.7 (°)         | 28.20°                |
| Ammonia (NH <sub>4</sub> )   | 0-0.02 (%)            | 0.01 %                |
| Specific Rotation[α] <sub>25</sub> /D(c=8 in 6M HCL/USP)                     | 26.6-28.8 (°)         | 26.60°                |
| Appearance (V139523)   | White powder          | White powder          |
| Cell Culture Test  | pass                  | Pass                  |
| Identity by IR   | Conforms to Structure | Conforms to Structure |
| Origin   | non-animal source     | non-animal source     |
| Solubility in H <sub>2</sub> O , Colorless Clear , 25mg/ml, H <sub>2</sub> O | pass                  | Pass                  |



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