

## Certificate of Analysis

Date of Testing: 2023-11-30 15:10:19  
 Date of Next Testing: 2027-11-29 15:10:19  
 Product Name: **L-Histidine**  
 CAS Number: 71-00-1  
 Specifications & Purity: EP,USP ,from non-animal source,for cell culture  
 Lot #: K2327094  
 SKU #: **H108261**  
**Analysis: 120131**

| Parameter  | Limit Values              | Result                    |
|--|---------------------------|---------------------------|
| PH test  | 7-8.5                     | 7.60                      |
| Ammonia (NH <sub>4</sub> )   | 0-0.02 (%)                | 0.01 %                    |
| Assay  | 98.5-100 (%)              | 99.71 %                   |
| Specific Rotation [α] <sub>20</sub> /D(c=11 in 6M HCl/EP)          | 12-12.8 (°)               | 12.79°                    |
| Loss on drying   | 0-0.2 (%)                 | 0.12 %                    |
| Specific Rotation [α] <sub>25</sub> /D(c=11 in 6M HCl/USP)         | 12.6-14 (°)               | 13.49°                    |
| (As)Arsenic  | 0-1 (ppm)                 | 0.52 ppm                  |
| Sulfate(SO <sub>4</sub> <sup>2-</sup> )                            | 0-0.02 (%)                | 0.01 %                    |
| Ignition Residue (as sulfate)                                      | 0-0.1 (%)                 | 0.05 %                    |
| Heavy metal (as Pb)  | 0-10 (ppm)                | 5.00 ppm                  |
| Endonuclease Detection   | 0-0.1 (EU/g)              | 0.04 EU/g                 |
| Iron(Fe)   | 0-10 (ppm)                | 0.00 ppm                  |
| Chloride   | 0-0.02 (%)                | 0.02 %                    |
| Appearance (h108261)   | White to Off-White Powder | White to Off-White Powder |
| Cell Culture Test  | pass                      | Pass                      |
| Infrared spectrum  | Conforms to Structure     | Conforms to Structure     |
| Ninhydrin-positive substances (other amino acids)                  | Conforms                  | Conforms                  |
| Origin   | non-animal source         | non-animal source         |
| Residual solvents  | complies                  | complies                  |
| Solubility in H <sub>2</sub> O , Colorless solution 0.5G/10MLwater | pass                      | Pass                      |



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A handwritten signature in black ink that reads "John Su".

John Su  
QA & QC Manager