

Chengdu KaiJie Biopharm Co., Ltd.

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Certification of Analysis

| Product Name | Thymosin α1 | | | |
|-------------------|---|---|------------|--|
| Molecular Formula | $C_{129}H_{215}N_{33}O_{55}$ | CAS. No. | 62304-98-7 | |
| Molecular Weight | 3108.3 | Bach No. | 20100701 | |
| Storage | 2∼8℃ | Manufacture Date | 07/01/2010 | |
| | Ac-Ser-Asp-Ala-Ala-Val-Asp-Thr-Ser-Ser- | | | |
| Sequence | Glu-Ile- | Glu-Ile-Thr-Thr-Lys-Asp-Leu-Lys-Glu-Lys | | |
| | -Lys-Glu-Val-Val-Glu-Glu-Ala-Glu-Asn-OH | | | |

| | TEST | SPECIFICATION | RESULT |
|---|---|----------------------|--------------|
| 1 | Appearance | White powder | White powder |
| 2 | Specific Optical Rotation(c=0.5, PH7.0 PBS) | -100.0 ~-110.0 ° | -109.22° |
| 3 | Water | ≤5.0% | 1.75% |
| 4 | Amino Acid Composition | ±20 % of theoretical | Complies |
| 5 | Purity | ≥96.0% | 99.49% |
| 6 | Single Impurity | <i>≤</i> 2.0% | 0.27% |
| 7 | HAc%(by HPLC) | <i>≤5.0%</i> | 4.82% |
| 8 | Assay(by anhydrous, acetic acid-free) | 95.0%~105.0% | 100.23% |

Quality Control By **Zhouzhongbing** Date: **2010-08-25**

Quality Assurance Department