



## CERTIFICATE OF ANALYSIS

Date: 02-09-2026

|                                |                                                                                                                                                                                                                                                                                                                                                                              |               |             |
|--------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|-------------|
| Product Name                   | Bacitracin EP Impurity F                                                                                                                                                                                                                                                                                                                                                     |               |             |
| Chemical Name                  | Tris-(4-(2S,3S)-4-((3S,6R,9S,12R,15S,18R,21S)-9-((1H-imidazol-5-yl)methyl)-3-(2-amino-2-oxoethyl)-18-(3-aminopropyl)-12-benzyl-15-(S)-sec-butyl)-6-(carboxymethyl)-2,5,8,11,14,17,20-heptamino-1,4,7,10,13,16,19-heptaazacyclotetradecan-21-yl)amino)-3-methyl-1-oxopentan-2-yl)amino)-4-(S)-2-(2-isobutyrylthiazole-4-carboxamido)-4-methylpentanamido)-5-oxopentanoic acid |               |             |
| Structure                      |                                                                                                                                                                                                                                                                                             |               |             |
| Batch No.                      | -                                                                                                                                                                                                                                                                                                                                                                            | CAS No.       | 167289-64-7 |
| Analysis Date                  | -                                                                                                                                                                                                                                                                                                                                                                            | Retest Date   | -           |
| Mol. Formula                   | C <sub>41</sub> H <sub>64</sub> N <sub>10</sub> O <sub>8</sub> S                                                                                                                                                                                                                                                                                                             | Molecular Wt. | 1405.6      |
| Long term Storage Condition    | Store at 2-8 °C in well closed container                                                                                                                                                                                                                                                                                                                                     |               |             |
| Handling and Transit Condition | 25-30 °C in well closed container                                                                                                                                                                                                                                                                                                                                            |               |             |

| Test                                                                                                                                                                                                                            | Result                |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|
| Appearance                                                                                                                                                                                                                      | -                     |
| Solubility                                                                                                                                                                                                                      | -                     |
| <sup>1</sup> H-NMR                                                                                                                                                                                                              | Conforms to structure |
| MASS                                                                                                                                                                                                                            | Conforms to structure |
| Chromatographic Purity                                                                                                                                                                                                          | >90%                  |
| <b>Note: This material should be used for research purpose and not for human or animal consumption. Any patent applicable for this product in any country is not applicable for this analytical standard/research chemical.</b> |                       |

|           | Prepared By | Checked By | Approved By |
|-----------|-------------|------------|-------------|
| Signature |             |            |             |
| Date      |             |            |             |

**CLEANCHEM LABORATORIES LLP**

Plot No. A-737/2, TTC Industrial Area, MIDC Khairane, Navi Mumbai, Maharashtra, INDIA- 400710

✉ sales@cleanchemlab.com ☎ +91-9324132198 🌐 www.cleanchemlab.com