

# CERTIFICATE OF ANALYSIS

Date: 11-08-2025

|                                |                                                                                                                                                                                                                                                                                                                                        |                                          |        |
|--------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|--------|
| Product Name                   | Vinblastine Impurity M                                                                                                                                                                                                                                                                                                                 |                                          |        |
| Chemical Name                  | Methyl (1aR,2aS,2bS,2b1R,3R,4S,4aR,9bR)-3-acetoxy-2b-ethyl-8-((5S,7R,9S)-5-ethyl-5-hydroxy-9-(methoxycarbonyl)-15-oxo-1,4,5,6,7,8,9,10-octahydro-2H-3,7-methano[1]azacycloundecino[5,4-b]indol-9-yl)-4-hydroxy-7-methoxy-5-methyl-1a,2a,2b,2b1,3,4,4a,5,10,11-decahydro-1H-oxireno[2',3':6,7]indolizino[8,1-cd]carbazole-4-carboxylate |                                          |        |
| Structure                      |                                                                                                                                                                                                                                                       |                                          |        |
| Batch. No.                     | -                                                                                                                                                                                                                                                                                                                                      | CAS No.                                  | NA     |
| Analysis Date                  | -                                                                                                                                                                                                                                                                                                                                      | Retest Date                              | 4      |
| Mol. Formula                   | C <sub>46</sub> H <sub>56</sub> N <sub>4</sub> O <sub>11</sub>                                                                                                                                                                                                                                                                         | Molecular Wt.                            | 840.97 |
| 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      |             |            |             |