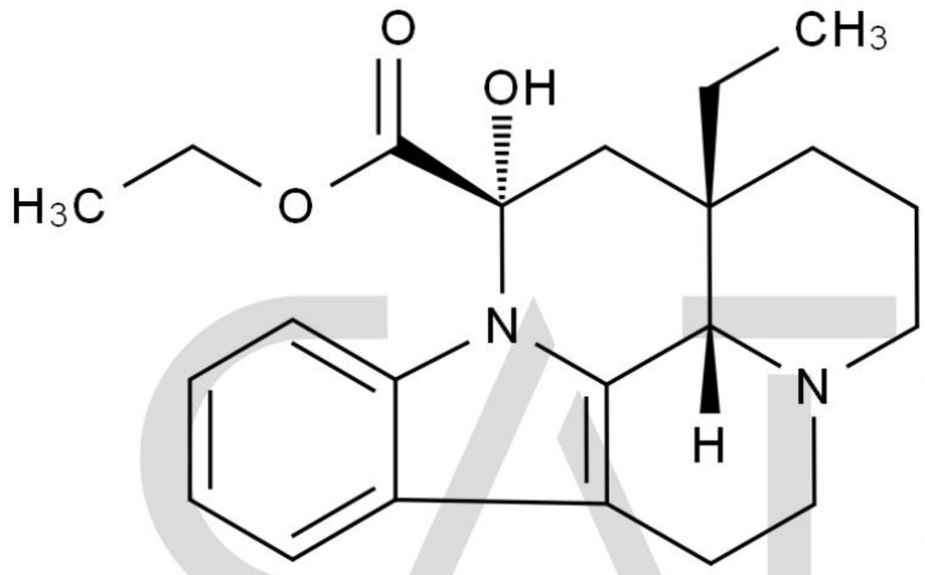
# Certificate of Analysis

## Reference Material & Standard

| | | | |
|---|---|---|---|
| **Product Name:** | Vinpocetine EP Impurity A | **Catalogue Number:** | C4X-18438 |
| **Synonyms:** | N/A | **Lot Number:** | 0924-RH-0027 |
| **CAS Number:** | 40163-56-2 | **Expiry Date:** | Sep 19, 2030 |
| **Molecular Formula:** | $C_{22}H_{28}N_2O_3$ | **Storage:** | 2°C ~ 8°C Protected from light and Sealed |
| **Molecular Weight:** | 368.47 | **Shipping Condition:** | Shipping at Room Temperature |

**Chemical Structure:**




| Test Items | Method | Results |
|---|---|---|
| **Appearance** | Visual inspection | White Solid |
| **Identification** | LCMS&UV&HNMR | Confirmed |
| **Purity** | HPLC | 99.518% |
| **Water Content** | Karl Fischer | 0.26% |
| **Residual Solvents** | NMR | 0.69% dichloromethane |
| **Assay** | | 98.6% |

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## Comment:

*The calculation of the mass balance method follows the formula (calculated on the non-dried basis):*
*Assay (%) = (100%-Water Content-Residual Solvents) * Purity HPLC (%) /100%*
*Water Content and Residual Solvents are considered as absolute effect, HPLC purity is considered as relative effect.*

**Signature:**

Prepared by: Date: Sep 24, 2026

Reviewed by: Date: Sep 28, 2026

Approved by General Manager: Date: Sep 28, 2026

CATO Research Chemicals Inc.