



## CERTIFICATE OF ANALYSIS

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### 1. Identification

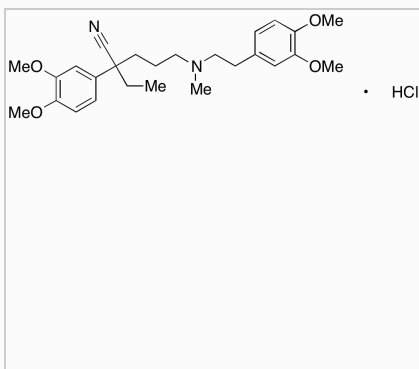
**Catalogue Number:** E913100

**CAS Number:** 190850-49-8

**Product:**  $\alpha$ -Ethyl- $\alpha$ -(1-demethylethyl)-Verapamil Hydrochloride

**Synonym:**  $\alpha$ -[3-[[2-(3,4-Dimethoxyphenyl)ethyl]methylamino]propyl]- $\alpha$ -ethyl-3,4-dimethoxy-benzeneacetonitrile Monohydrochloride; Verapamil Impurity H; Verapamil EP Impurity H HCl;

**Structure:**



**Molecular Formula:**

$C_{26}H_{36}N_2O_4 \cdot HCl$

**Molecular weight:**

440.58 + 36.46

**Source of Product:**

Synthetic

**Solubility:**

Ethanol (Slightly), Water (Slightly)

**Lot Number:** 4-SKR-182-1

**Purity:** 96%

**Shipping Condition:** This Product Is Stable To Be Shipped At Room Temperature

**Storage Condition:** 4°C

### 2. Warning

**Warning 1:**

**Warning 2:**

**Warning 3:**

### 3. Analytical Information

Tests:	Specifications:	Results:
Appearance	Off-White to Light Beige Solid	Pale Beige Solid
NMR	Conforms to Structure	Conforms
Elemental Analysis	Conforms	%C: 61.88, %H: 7.99, %N: 5.95
HPLC Purity	Report Result	96.68% (230 nm)
MS	Conforms to Structure	Conforms

**Additional Information:** N/A

Purity is based on the analytical results of the tests performed. NMR and Elemental Analysis (if available) may have an accuracy of  $\pm 2\%$ . Isotopic purity is based on mass distribution observed. The contents of the specifications are subject to change without advance notice, and the specification values displayed here are the most up to date values.

### 4. Signatures

Reviewed By	Reviewed By	C of A Approved By	Test Date	Retest Date
Meenakshi Sharma	Toni Rantanen	Christina Gouliaras	2/23/2024	2/21/2028