bio-techne
TOCRIS

Print Date: Apr 9th 2025

# Certificate of Analysis

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**Product Name:** **Calmidazolium chloride** **Catalog No.: 2561** **Batch No.: 3**

CAS Number: 57265-65-3

IUPAC Name: 1-[*Bis*(4-chlorophenyl)methyl]-3-[2-(2,4-dichlorophenyl)-2-(2,4-dichlorobenzyloxy)ethyl]-1*H*-imidazolium chloride

## 1. PHYSICAL AND CHEMICAL PROPERTIES

**Batch Molecular Formula:** $C_{31}H_{23}Cl_7N_2O.¼H_2O$

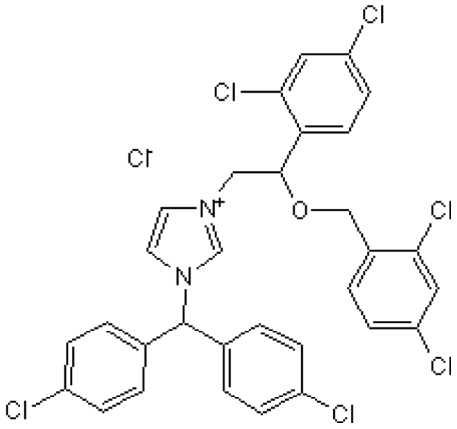
**Batch Molecular Weight:** 692.2

**Physical Appearance:** White solid

**Solubility:** DMSO to 100 mM
ethanol to 100 mM

**Storage:** Store at +4°C

**Batch Molecular Structure:**




## 2. ANALYTICAL DATA

**HPLC:** Shows 95.4% purity

**$^1$H NMR:** Consistent with structure

**Mass Spectrum:** Consistent with structure

**Microanalysis:**

| | Carbon | Hydrogen | Nitrogen |
|---|---|---|---|
| Theoretical | 53.79 | 3.42 | 4.05 |
| Found | 53.65 | 3.42 | 3.91 |



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**Description:**

Calmidazolium chloride is a calmodulin antagonist. Inhibits calmodulin-dependent phosphodiesterase and $Ca^{2+}$-transporting ATPase with $IC_{50}$ values of 0.15 and 0.35 µM respectively. Also causes elevation of intracellular calcium in HL-60 cells, independent of calmodulin inhibition.

**Physical and Chemical Properties:**

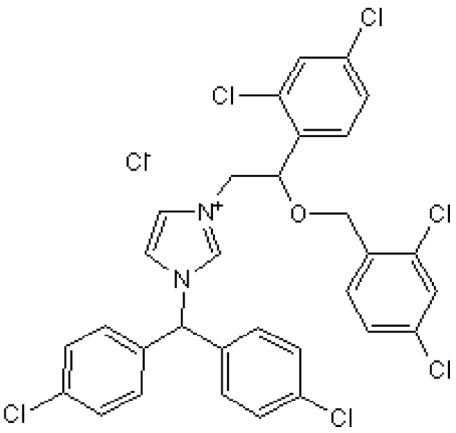
Batch Molecular Formula: $C_{31}H_{23}Cl_7N_2O.¼H_2O$

Batch Molecular Weight: 692.2

Physical Appearance: White solid

**Minimum Purity:** ≥95%

**Batch Molecular Structure:**




**Storage:** Store at +4°C

**Solubility & Usage Info:**

DMSO to 100 mM
ethanol to 100 mM

**Stability and Solubility Advice:**

Some solutions can be difficult to obtain and can be encouraged by rapid stirring, sonication or gentle warming (in a 45-60°C water bath).

Information concerning product stability, particularly in solution, has rarely been reported and in most cases we can only offer a general guide. *Unless contradicted by product-specific protocols or instructions, our standard recommendations apply:

SOLIDS: Provided storage is as stated on the product label and the vial is kept tightly sealed, the product can be stored for up to 6 months from date of receipt.

SOLUTIONS: We recommend that stock solutions, once prepared, are stored aliquoted in tightly sealed vials at -20°C or below and used within 1 month. Wherever possible solutions should be made up and used on the same day.

**References:**

**Peppiatt** *et al* (2004) Calmidazolium and arachidonate activate a calcium entry pathway that is distinct from store-operated calcium influx in HeLa cells. Biochem.J. ***381*** 929. PMID: 15130089.

**Harper and Daly** (2000) Effect of calmidazolium analogs on calcium influx in HL-60 cells. Biochem.Pharmacol. ***60*** 317. PMID: 10856426.

**Gietzen** (1983) Comparison of the calmodulin antagonists compound 48/80 and calmidazolium. Biochem.J. ***216*** 611. PMID: 6141789.