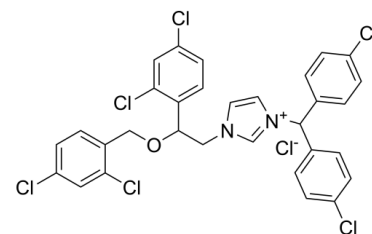


Data Sheet

Product Name:	Calmidazolium (chloride)
Cat. No.:	CS-0027612
CAS No.:	57265-65-3
Molecular Formula:	C ₃₁ H ₂₃ Cl ₇ N ₂ O
Molecular Weight:	687.70
Target:	Autophagy; Calmodulin
Pathway:	Autophagy; Membrane Transporter/Ion Channel
Solubility:	DMSO : 100 mg/mL (ultrasonic); H ₂ O : < 0.1 mg/mL (ultrasonic;warming;heat to 60°C)



BIOLOGICAL ACTIVITY:

Calmidazolium chloride (R 24571) is a **calmodulin** antagonist, antagonizing CaM-dependent phosphodiesterase and calmodulin-induced activation of erythrocyte Ca²⁺-transporting ATPase with **IC₅₀s** of 0.15 and 0.35 μM, respectively^[1]. Also in anti-cancer research^[2]. Calmidazolium binds to calmodulin with a **K_d** of 3 nM. **IC₅₀ & Target:Kd:** 3 nM (Calmodulin)^[3] **In Vitro:** Calmidazolium chloride is widely used as a calmodulin (CaM) antagonist, but is also known to induce apoptosis in certain cancer cell lines. Calmidazolium chloride (3, 5, 7, 10 μM, 30 minutes-24 hours) inhibits growth of mouse F9 ECCs^[2].

References:

- [1]. Gietzen K, et al. Comparison of the calmodulin antagonists compound 48/80 and calmidazolium. *Biochem J.* 1983 Dec 15;216(3):611-6.
- [2]. Lee J, et al. Calmidazolium chloride inhibits growth of murine embryonal carcinoma cells, a model of cancer stem-like cells. *Toxicol In Vitro.* 2016 Sep;35:86-92.
- [3]. Budu A, et al. Calmidazolium evokes high calcium fluctuations in *Plasmodium falciparum*. *Cell Signal.* 2016 Mar;28(3):125-135.

CAIndexNames:

1H-Imidazolium, 3-[bis(4-chlorophenyl)methyl]-1-[2-(2,4-dichlorophenyl)-2-[(2,4-dichlorophenyl)methoxy]ethyl]-, chloride (1:1)

SMILES:

ClC1=CC=C(COC(C2=CC=C(Cl)C=C2Cl)CN3C=C[N+](C(C4=CC=C(Cl)C=C4)C5=CC=C(Cl)C=C5)=C3)C(Cl)=C1.[Cl-]

Caution: Product has not been fully validated for medical applications. For research use only.

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