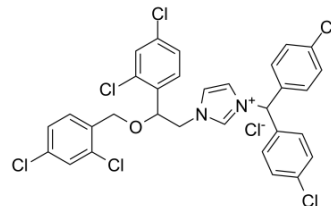


Calmidazolium chloride

Cat. No.:	HY-103319		
CAS No.:	57265-65-3		
Molecular Formula:	C ₃₁ H ₂₃ Cl ₇ N ₂ O		
Molecular Weight:	687.7		
Target:	CaMK; Autophagy		
Pathway:	Neuronal Signaling; Autophagy		
Storage:	Powder	-20°C	3 years
	In solvent	-80°C	6 months
		-20°C	1 month



SOLVENT & SOLUBILITY

In Vitro	DMSO : 100 mg/mL (145.41 mM; Need ultrasonic)			
		Solvent	Mass	
		Concentration	1 mg	5 mg
	Preparing Stock Solutions		10 mg	
	1 mM	1.4541 mL	7.2706 mL	14.5412 mL
	5 mM	0.2908 mL	1.4541 mL	2.9082 mL
	10 mM	0.1454 mL	0.7271 mL	1.4541 mL
Please refer to the solubility information to select the appropriate solvent.				
In Vivo	1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline Solubility: ≥ 2.08 mg/mL (3.02 mM); Clear solution 2. Add each solvent one by one: 10% DMSO >> 90% corn oil Solubility: ≥ 2.08 mg/mL (3.02 mM); Clear solution			

BIOLOGICAL ACTIVITY

Description	Calmidazolium chloride (R 24571) is a calmodulin (CaMK) antagonist, antagonizing CaM-dependent phosphodiesterase and calmodulin-induced activation of erythrocyte Ca ²⁺ -transporting ATPase with IC ₅₀ s of 0.15 and 0.35 μM, respectively ^[1] . Also in anti-cancer research ^[2] . Calmidazolium binds to CaMK 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] . MCE has not independently confirmed the accuracy of these methods. They are for reference only. Cell Viability Assay ^[2]

Cell Line:	Mouse F9 ECCs
Concentration:	3, 5, 7, 10 μ M
Incubation Time:	30 minutes-24 hours
Result:	The IC ₅₀ s of Calmidazolium chloride treated F9 ECCs and E14 ESCs are 8.18 μ M, and 12.69 μ M ^[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.
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Caution: Product has not been fully validated for medical applications. For research use only.

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