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Zuschläge

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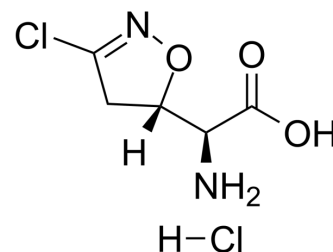
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Acivicin hydrochloride

Cat. No.:	HY-W016586A
CAS No.:	161922-40-3
Molecular Formula:	C ₅ H ₈ Cl ₂ N ₂ O ₃
Molecular Weight:	215.03
Target:	Parasite
Pathway:	Anti-infection
Storage:	4°C, stored under nitrogen
	* In solvent : -80°C, 6 months; -20°C, 1 month (stored under nitrogen)



SOLVENT & SOLUBILITY

In Vitro	DMSO : 100 mg/mL (465.05 mM; Need ultrasonic)				
		Solvent Concentration	Mass 1 mg	5 mg	10 mg
	Preparing Stock Solutions	1 mM	4.6505 mL	23.2526 mL	46.5051 mL
		5 mM	0.9301 mL	4.6505 mL	9.3010 mL
		10 mM	0.4651 mL	2.3253 mL	4.6505 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: ≥ 2.5 mg/mL (11.63 mM); Clear solution 2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline) Solubility: ≥ 2.5 mg/mL (11.63 mM); Clear solution				

BIOLOGICAL ACTIVITY

Description	Acivicin hydrochloride (AT-125 hydrochloride), a natural product produced by <i>Streptomyces sviveus</i> , is a γ-glutamyl transpeptidase (GGT) inhibitor. Acivicin hydrochloride can cross the blood-brain barrier and has anti-cancer, anti-parasitic properties ^{[1][2]} .
IC₅₀ & Target	γ-glutamyl transpeptidase ^[1]
In Vitro	Acivicin hydrochloride (AT-125 hydrochloride; 0.1-50 μM; 5 days) has an IC ₅₀ of 0.7 μM in human HepG2 cells ^[1] . MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	Acivicin hydrochloride (AT-125 hydrochloride; 5 mg/kg; IP; twice weekly) reduces urinary γ-GT by 70-78% ^[3] . MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Male pigmented Long-Evans rats weighed between 250 g and 300 g exposed to Toluene ^[3]
Dosage:	5 mg/kg
Administration:	IP; twice weekly (monday and wednesday)
Result:	Reduced urinary γ -GT by 70-78%.

REFERENCES

- [1]. Delphine Waniusiow, et al. Toluene-induced hearing loss in acivicin-treated rats. *Neurotoxicol Teratol.* May-Jun 2008;30(3):154-60.
- [2]. Kreuzer J, et al. Target discovery of acivicin in cancer cells elucidates its mechanism of growth inhibition. *Chem Sci.* 2014 Dec 1;6(1):237-245. Epub 2014 Sep 26.
- [3]. Chikhale EG, et al. Carrier-mediated transport of the antitumor agent acivicin across the blood-brain barrier. *Biochem Pharmacol.* 1995 Mar 30;49(7):941-5.

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

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