Product Data Sheet

Product Name: Erythromycin thiocyanate
Cat. No.: GC67842

Chemical Properties

Cas. No.	7704-67-8		
Formula	$C_{38}H_{68}N_2O_{13}S$	M.Wt	793.02
Solubility	DMSO : 100 mg/mL (126.10 mM; Need ultrasonic)	Storage	Store at -20°C, away from moisture
General tips	For obtaining a higher solubility , please warm the tube at 37 ℃ and shake it in the ultrasonic bath for a while.Stock solution can be stored below -20℃ for several months.		
Shipping Condition	Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.		
Structure	Erythromycin thiocyanate		

Background

Erythromycin thiocyanate is a macrolide **Antibiotic** produced by *actinomycete Streptomyces* erythreus with a broad spectrum of antimicrobial activity. Erythromycin thiocyanate binds to bacterial 50S ribosomal subunits and inhibits **RNA-dependent protein synthesis** by blockage of transpeptidation and/or translocation reactions, without affecting synthesis of nucleic acid[1][2]. Erythromycin thiocyanate also exhibits antitumor and neuroprotective effect in different fields of research[3][4].

Erythromycin thiocyanate inhibits growth of *P. falciparum* with IC_{50} and IC_{90} values of 58.2 μM and 104.0 μM, respectively[1].
Erythromycin thiocyanate (10 μM, 100 μM; 24 h, 72 h) shows antioxidant and anti-inflammatory effects and suppresses the accumulation of 4-HNE ($p<0.01$) and 8-OHdG ($p<0.01$), reduces Iba-1 ($p<0.01$) and TNF-α ($p<0.01$) expression significantly[4].

Cell Viability Assay[4]

Tel: (909) 407-4943 Fax: (626) 353-8530 E-mail: tech@glpbio.com
Address: 10292 Central Ave. #205, Montclair, CA, USA

Product Data Sheet

Cell Line:	Embryos primary cortical neuron (from the cerebral cortices of 17-day-old Sprague-Dawley rat)
Concentration:	10, 100 μM
Incubation Time:	24, 72 hours
Result:	Improved the viability of cultured neuronal cells in vitro after 3 hours oxygen-glucose deprivation (OGD).

Erythromycin thiocyanate (gastric intubation; 0.1-50 mg/kg; 30-120 days) decreases tumor growth and prolong the survival time of mice from dose of 5 mg/kg in mice[3].
Erythromycin thiocyanate (gastric intubation; 5 mg/kg) protects mice alive even at 120 days after inoculation, but shortens mean survival time in tumor-bearing mice by 4-5 days with dose of 50 mg/kg[3].
Erythromycin thiocyanate (i.h.; single injection; 50 mg/kg) has a protective effect on the rat model with cerebral ischemia reperfusion-injury[4].

Animal Model:	Female ddY mice (6-week-old) with EAC cells or CDF mice (6-week-old) with P388 cells[3]
Dosage:	0.1 mg/kg; 0.5 mg/kg; 10 mg/kg; 30 mg/kg; 50 mg/kg
Administration:	Gastric intubation; 30-120 days
Result:	Decreased tumor growth and prolonged the mean survival time of mice from the dose of 5 mg/kg, however, the 50 mg/kg dosage shortened the MST in tumorbearing mice.
Animal Model:	Male Sprague-Dawley rats (8-week-old, 250-300 g)[4]
Dosage:	50 mg/kg
Administration:	Subcutaneous single injection

Tel: (909) 407-4943 Fax: (626) 353-8530 E-mail: tech@glpbio.com
Address: 10292 Central Ave. #205, Montclair, CA, USA

Product Data Sheet

Result:	Reduced infarct volume and edema volume, improved neurological deficit.

[1]. Gribble MJ, et al. Erythromycin. Med Clin North Am. 1982 Jan;66(1):79-89.
[2]. Nakornchai S, et al. Activity of azithromycin or erythromycin in combination with antimalarial drugs against multidrug-resistant Plasmodium falciparum in vitro. Acta Trop. 2006 Dec;100(3):185-91. Epub 2006 Nov 28.
[3]. Hamada K, et al. Antitumor effect of erythromycin in mice. Chemotherapy. 1995 Jan-Feb. 41(1):59-69.
[4]. Katayama Y, et al. Neuroprotective effects of erythromycin on cerebral ischemia reperfusion-injury and cell viability after oxygen-glucose deprivation in cultured neuronal cells. Brain Res. 2014 Nov 7. 1588:159-67.

Tel: (909) 407-4943 Fax: (626) 353-8530 E-mail: tech@glpbio.com
Address: 10292 Central Ave. #205, Montclair, CA, USA