Acetylspiramycin

Cat. No.: HY-B1916

CAS No.: 24916-51-6

Molecular Formula: $C_{45}H_{76}N_2O_{15}$

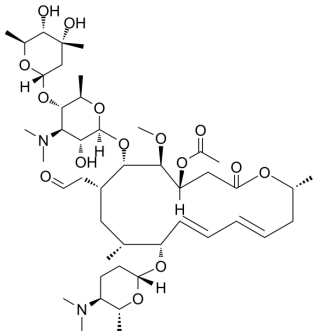
Molecular Weight: 885.09

Target: Bacterial; Antibiotic; Parasite

Pathway: Anti-infection

Storage:

Powder	-20°C	3 years
	4°C	2 years
In solvent	-80°C	2 years
	-20°C	1 year



SOLVENT & SOLUBILITY

In Vitro

DMSO : ≥ 50 mg/mL (56.49 mM)

* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	1.1298 mL	5.6491 mL	11.2983 mL
5 mM	0.2260 mL	1.1298 mL	2.2597 mL
10 mM	0.1130 mL	0.5649 mL	1.1298 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 (2.82 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (2.82 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Acetylspiramycin (Spiramycin B) is an effective oral macrolide antibiotic produced by Streptomyces, It can inhibit the splenic lymphocyte transformation induced by phytohemagglutinin (PHA), LPS (HY-D1056) and antigen, reduce the procoagulant activity of macrophages, have good antibacterial effect on gram-positive bacteria, and is also an effective antigenic insect agent, which can be used to fight parasitic infection[1][2][3][4].

IC_{50} & Target

Macrolide

In Vitro

Acetylspiramycin (0-40 μg/mL, 0-72 h) can dose-dependently inhibit lymphocyte proliferation in spleen cell culture medium supplemented with plant hemagglutinin (PHA, 10 μg/mL), and the extent of its effect depends on the time of addition[3].

Acetylspiramycin (25-100 μg/ml, 18 h) can reduce the phagocytosis of mouse peritoneal macrophages and has reversible toxicity to macrophages in vitro[4].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Cell Proliferation Assay[3]

Cell Line:	Spleen cells were cultured with PHA (10 μg/mL)
Concentration:	0-40 μg/mL
Incubation Time:	0-72 h
Result:	Inhibited 3HT incorporation in a dose-dependent manner. Inhibited the proliferation response of B lymphocytes to LPS. Inhibited antigen-induced proliferation of SRBC-immunized mouse spleen cells.

In Vivo

Acetylspiramycin (25-200 mg/kg/day; Oral gavage (p.o.); 7 days) can significantly enhance the lymphocyte proliferation response of CBA/H mice to PHA, and reduce the activity of lymphokine in a dose-dependent manner[3].

Acetylspiramycin (50-200 mg/kg/day; Oral gavage (p.o.); 14 days) in CBA/H mouse models can increase the efficiency of phagocytosis in mice[4].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	CBA/H mice
Dosage:	25-200 mg/kg/day
Administration:	Oral gavage (p.o.), 7 days
Result:	Decreased lymphokine activity in a dose-dependent manner

Animal Model:	CBA/H mice[4]
Dosage:	50-200 mg/kg/day
Administration:	Oral gavage (p.o.), 14 days
Result:	Increased the efficiency of phagocytosis in mice.

CUSTOMER VALIDATION

- Acta Pharm Sin B. 2021 Mar 11.
- Cell Prolif. 2021 Jan;54(1):e12953.

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REFERENCES

[1]. Li SY, et al. Acetylspiramycin and the immune system--II. Effects on lymphocyte proliferation, lymphokine production, delayed-type hypersensitivity and antibody production. Int J Immunopharmacol. 1986;8(6):657-664.

[2]. Li SY, et al. Acetylspiramycin and the immune system. I. Effects of acetylspiramycin on phagocytosis by mouse macrophages in vitro and in vivo. Int J Immunopharmacol. 1985;7(6):881-8.

[3]. Min-Zhu Huang, et al. Therapeutic effects of acetylspiramycin and garlicin on cryptosporidiosis among drug users. Int J Parasitol Drugs Drug Resist

[4]. Acetylspiramycin

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