Squalamine

Cat. No.: HY-16468

CAS No.: 148717-90-2

Molecular Formula: $C_{34}H_{65}N_3O_5S$

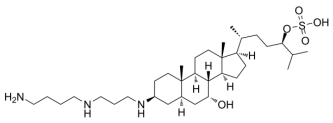
Molecular Weight: 627.96

Target: Bacterial; HBV

Pathway: Anti-infection

Storage:

Powder	-20°C	3 years
	4°C	2 years
In solvent	-80°C	6 months
	-20°C	1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : 100 mg/mL (159.25 mM; Need ultrasonic)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	1.5925 mL	7.9623 mL	15.9246 mL
5 mM	0.3185 mL	1.5925 mL	3.1849 mL
10 mM	0.1592 mL	0.7962 mL	1.5925 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: ≥ 2.75 mg/mL (4.38 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.75 mg/mL (4.38 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.75 mg/mL (4.38 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Squalamine(MSI-1256) is an aminosterol compound with potent broad spectrum antiviral activity.IC50 value: Target: in vitro: squalamine can strongly displace membrane-bound cationic proteins such as Rac1, a ρ-GTPase recruited to the inner leaflet of the eukaryotic cytoplasmic membrane for the actin remodeling necessary for endocytosis. At concentrations between 20 and 60 μg/mL, squalamine has been shown to inhibit a broad array of growth factor-induced, actin-dependent responses in endothelial cells, including cell migration, cell division, and vascular tube formation in a 3D matrix [1]. Squalamine effectively inhibited HBV replication in human primary hepatocytes when added either during the initial exposure of virus to the cells or at 24 h after infection. A similar study was performed to evaluate the effect of squalamine on

the replication of HDV. Squalamine was introduced at 20 μg/mL during HDV exposure, and the effects were measured at day 7 when total RNA was extracted and assayed for HDV RNA sequences [1]. in vivo: one time daily treatment with squalamine (15 or 30 mg/kg per d s.c.) was started beginning on day 1 or 2 after viral administration and continuing until day 8 or 9, respectively. Survival was monitored, and animals that remained alive by day 21 were considered cured [1].

REFERENCES

[1]. Zasloff M, et al. Squalamine as a broad-spectrum systemic antiviral agent with therapeutic potential. Proc Natl Acad Sci U S A. 2011 Sep 20;108(38):15978-83.

[2]. Hraiech S, et al. Antibacterial efficacy of inhaled squalamine in a rat model of chronic Pseudomonas aeruginosa pneumonia. J Antimicrob Chemother. 2012 Oct;67(10):2452-8.

[3]. Djouhri-Bouktab L, et al. Squalamine ointment for Staphylococcus aureus skin decolonization in a mouse model. J Antimicrob Chemother. 2011 Jun;66(6):1306-10.

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