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SZABO-SCANDIC HandelsgmbH

Quellenstraße 110, A-1100 Wien

T. +43(0)1 489 3961-0

F. +43(0)1 489 3961-7

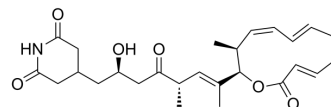
mail@szabo-scandic.com

www.szabo-scandic.com

[linkedin.com/company/szaboscandic](https://www.linkedin.com/company/szaboscandic) 

Lactimidomycin

Cat. No.:	HY-18979	
CAS No.:	134869-15-1	
Molecular Formula:	C ₂₆ H ₃₅ NO ₆	
Molecular Weight:	457.56	
Target:	Flavivirus; Dengue virus	
Pathway:	Anti-infection	
Storage:	Powder	-20°C 3 years
	In solvent	-80°C 6 months
		-20°C 1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : 5.72 mg/mL (12.50 mM; Need ultrasonic and warming)

Concentration	Solvent	Mass		
		1 mg	5 mg	10 mg
Preparing Stock Solutions	1 mM	2.1855 mL	10.9275 mL	21.8551 mL
	5 mM	0.4371 mL	2.1855 mL	4.3710 mL
	10 mM	0.2186 mL	1.0928 mL	2.1855 mL

Please refer to the solubility information to select the appropriate solvent.

BIOLOGICAL ACTIVITY

Description

Lactimidomycin is a glutarimide-containing compound isolated from Streptomyces. Lactimidomycin is a potent inhibitor of eukaryotic translation elongation. Lactimidomycin has a potent antiproliferative effect on tumor cell lines and selectively inhibit protein translation. Lactimidomycin inhibits protein synthesis with an IC₅₀ value of 37.82 nM. Lactimidomycin is also a potent and non-toxic inhibitor of dengue virus 2 and other RNA viruses. Anticancer and antiviral activities^{[1][2]}.

IC₅₀ & Target

Eukaryotic translation elongation^[1]
Dengue virus 2 and other RNA viruses^[2]

In Vitro

Lactimidomycin (0.01-100 nM; 24 hours; Hs 579T, HCC 1937, HCC 1395, HCC 2218, BT 474, MCF 7, MDA MB231 cells and MCF 10A) treatment inhibits cell growth with IC₅₀ concentrations in the low nanomolar range, but higher doses are necessary to inhibit growth of the non-tumorigenic breast cell line MCF10A^[1].
Lactimidomycin induces a clear dose-responsive inhibition of DENV2 infectious particle production with an EC₉₀ value of 0.4 μM. No measurable decrease in cell viability was detected at concentrations up to 12.5 μM^[2].
Lactimidomycin is a potent inhibitor of DENV2 and Lactimidomycin's inhibition of DENV2 translation leads to reduced production of newly infectious particles. Lactimidomycin may protect cells from viral cytopathic effects including apoptosis, likely through inhibition of virus protein production and replication^[2].

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

Cell Proliferation Assay^[1]

Cell Line:	Hs 579T, HCC 1937, HCC 1395, HCC 2218, BT 474, MCF 7, MDA MB231 cells and MCF 10A
Concentration:	0.01-100 nM
Incubation Time:	24 hours
Result:	Inhibited cell growth with IC ₅₀ concentrations in the low nanomolar range.

In Vivo

Lactimidomycin (0.6 mg/kg; intraperitoneal injection; daily; for one month; female nude mice) treatment has an appreciable effect on tumor growth in nude mice^[1].

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

Animal Model:	Female nude mice (6-8 week old) with MDA MB 231 cells ^[1]
Dosage:	0.6 mg/kg
Administration:	Intraperitoneal injection; daily; for one month
Result:	Had an appreciable effect on tumor growth in vivo.

CUSTOMER VALIDATION

- J Biol Chem. 2022 Oct 20;102629.

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REFERENCES

- [1]. Schneider-Poetsch T, et al. Inhibition of eukaryotic translation elongation by cycloheximide and lactimidomycin. Nat Chem Biol. 2010 Mar;6(3):209-217.
- [2]. Carocci M, et al. Lactimidomycin is a broad-spectrum inhibitor of dengue and other RNA viruses. Antiviral Res. 2016 Apr;128:57-62.

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

Tel: 609-228-6898

Fax: 609-228-5909

E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA