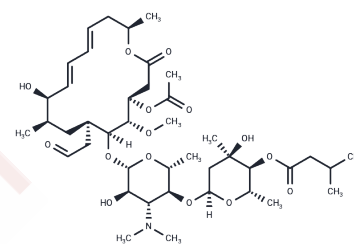


JOSAMYCIN

Chemical Properties

CAS No. :	16846-24-5
Formula:	C42H69NO15
Molecular Weight:	827.99
Storage:	Powder: -20°C for 3 years In solvent: -80°C for 1 year Actual storage temperature shall be subject to the COA.



Biological Description

Description	Josamycin (EN-141) is a macrolide antibiotic with antimicrobial activity, characterized by a ribosomal dissociation constant (Kd) of 5.5 nM.
Targets(IC50)	Antibacterial, Antibiotic
In vitro	Josamycin significantly attenuated NO production elicited by <i>P. intermedia</i> LPS as well as induction of iNOS protein and mRNA in RAW264.7 cells. While the release of IL-1 β from cells stimulated by LPS was suppressed in the presence of josamycin, josamycin failed to reduce the degree of IL-1 β mRNA expression. Josamycin did not reduce the stability of IL-1 β mRNA induced by <i>P. intermedia</i> LPS, at the same time josamycin also failed to suppress the LPS-induced intracellular IL-1 β expression. Josamycin augmented HO-1 induction in cells exposed to <i>P. intermedia</i> LPS, and SnPP, an inhibitor of HO-1 activity, reversed the suppressive impact of josamycin upon NO generation induced by LPS. Josamycin diminished NF- κ B transcriptional activity induced by <i>P. intermedia</i> LPS. Further, josamycin enhanced SOCS1 mRNA level in cells activated with LPS[1].
In vivo	Josamycin (0.1%) was topically administered to NC/Nga mice with AD-like skin lesions induced by 2, 4, 6-trinitrochlorobenzene (TNCB). The therapeutic effects of josamycin were assessed by measurement of the skin severity scores, histological changes in the lesioned skin, serum levels of total IgE, and expression of interferon (IFN)- γ and interleukin (IL)-4 in lymph nodes and skin lesions[2].
Cell Research	LPS was purified by employing phenol-water extraction protocol. Culture supernatants were analyzed for nitric oxide (NO) and interleukin (IL)-1 β . Real-time PCR and immunoblotting were conducted to quantify mRNA and protein expression, respectively. The expression levels of IL-1 β were analyzed by confocal laser scanning microscopy. NF- κ B-dependent SEAP levels were estimated by reporter assay[1].
Animal Research	Topical treatment with josamycin significantly suppressed the increase in the skin severity score in NC/Nga mice. This suppressive effect was equal to that of betamethasone, and was associated with a decrease in the density of cellular infiltration into the dermis, the mast cell count in the dermis and the serum IgE level. Furthermore, topical application of josamycin reduced the expression of IFN- γ and IL-4 in auricular lymph node cells and the skin lesions[2].

Solubility Information

A DRUG SCREENING EXPERT

Solubility	DMSO: 35 mg/mL (42.27 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween-80+45% Saline: 2 mg/mL (2.42 mM),Sonication is recommended. <i>Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.</i>

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.2077 mL	6.0387 mL	12.0774 mL
5 mM	0.2415 mL	1.2077 mL	2.4155 mL
10 mM	0.1208 mL	0.6039 mL	1.2077 mL
50 mM	0.0242 mL	0.1208 mL	0.2415 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

Eun-Young C , So-Hui C , Jin-Yi H , et al. Josamycin suppresses, Prevotella intermedia, lipopolysaccharide-induced production of nitric oxide and interleukin-1 β in murine macrophages[J]. Biomedicine & Pharmacotherapy, 2018, 105:498-505.

Katsuhiko M , Kanta T , Kei O , et al. Topical Application of Josamycin Inhibits Development of Atopic Dermatitis-Like Skin Lesions in NC/Nga Mice[J]. Journal of Pharmacy & Pharmaceutical Sciences, 2017, 20:38-.

Auzou M , Caillon J , Poyart C , et al. In vitro activity of josamycin against Streptococcus pyogenes isolated from patients with upper respiratory tract infections in France[J]. Médecine et Maladies Infectieuses, 2015, 45(7):293-296.

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