

Product Data Sheet

Product Name: Ribavirin

Cat. No.: GC11518

Chemical Properties

Cas. No. 36791-04-5

Chemical Name 1-[(2R,3R,4S,5R)-3,4-dihydroxy-5-(hydroxymethyl)oxolan-2-yl]-1,2,4-triazole-3-carboxamide

SMILES C1=NC(=NN1C2C(C(C(O2)CO)O)O)C(=O)N

Formula $C_8H_{12}N_4O_5$ M.Wt 244.20864

Solubility $\geq 12.2\text{mg/mL}$ in DMSO Storage Store at -20°C

General tips For obtaining a higher solubility, please warm the tube at 37°C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution: ship with blue ice. All other available size: ship with RT, or blue ice upon request.

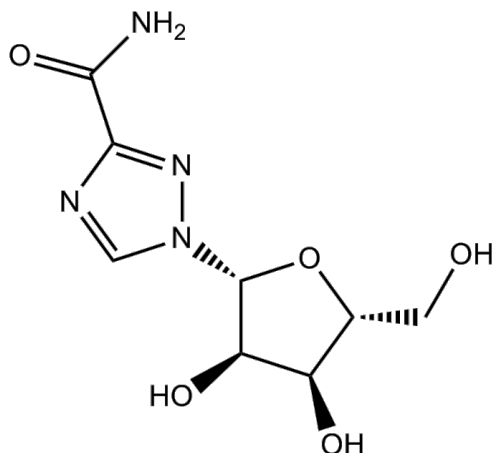
Caution: Product has not been fully validated for medical applications. For research use only.

Tel: (909) 407-4943 Fax: (626) 353-8530 E-mail: tech@glpbio.com

Address: 10292 Central Ave. #205, Montclair, CA, USA

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Structure



Protocol

Cell experiment [1]:

Cell lines HeLa S3 cells

Preparation method The solubility of this compound in DMSO is > 10 mM. General tips for obtaining a higher concentration: Please warm the tube at 37 °C for 10 minutes and/or shake it in the ultrasonic bath for a while. Stock solution can be stored below - 20 °C for several months.

Reacting condition 100 ~ 1,000 μ M

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Applications	HeLa S3 cells pre-treated with 100 µM Ribavirin before the infection with poliovirus at a low multiplicity of infection exhibited a reduction in virus production to 50%. Pre-treatment with 1,000 µM Ribavirin induced a reduction in virus production to 0.00001%.
Animal experiment [2]:	
Animal models	H1N1 virus-infected mice
Dosage form	In H1N1 virus-infected mice, Ribavirin in combination with Glycyrrhizin significantly inhibited the lung consolidation by 36%. The combination also exhibited synergetic effect on survival of infected mice. In addition, the combination of Ribavirin and Glycyrrhizin substantially reduced lung virus titer, as well as inhibited H1N1 virus-induced production of proinflammatory cytokines IL-6, TNF-α and IL-1β.
Applications	40 mg/kg/day
Other notes	Please test the solubility of all compounds indoor, and the actual solubility may slightly differ with the theoretical value. This is caused by an experimental system error and it is normal.

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References:

- [1]. Crotty S, Maag D, Arnold JJ, Zhong W, Lau JY, Hong Z, Andino R, Cameron CE. The broad-spectrum antiviral ribonucleoside ribavirin is an RNA virus mutagen. *Nat Med.* 2000 Dec;6(12):1375-9.
- [2]. Chen XX, Zhou HX, Qi WB, Ning ZY, Ma YJ, Li YL, Wang GC, Chen JX. [Antiviral effects of the combination of glycyrrhizin and ribavirin against influenza A H1N1 virus infection in vivo]. *Yao Xue Xue Bao.* 2015 Aug;50(8):966-72.

Background

Ribavirin (ICN-1229) is an antiviral agent against a broad spectrum of viruses including HCV, HIVI, and RSV.

Treatment of LPS-stimulated microglia with 5, 10 and 20 μ M Ribavirin (ICN-1229) induces reduction of NO₂ levels for 43% (p

ALT, AST activities and bilirubin levels are significantly lowered by administration of JAT in combination with interferon and Ribavirin (ICN-1229) (p

References:

- [1]. Abdel-Hamid NM, et al. Synergistic Effects of Jerusalem Artichoke in Combination with Pegylated Interferon Alfa-2a and Ribavirin Against Hepatic Fibrosis in Rats. *Asian Pac J Cancer Prev.* 2016;17(4):1979-85.
- [2]. Refaat B, et al. The effects of pegylated interferon- α and ribavirin on liver and serum concentrations of activin-A and follistatin in normal Wistar rat: a preliminary report. *BMC Res Notes.* 2015 Jun 26;8:265
- [3]. Savic D, et al. Ribavirin shows immunomodulatory effects on activated microglia. *Immunopharmacol Immunotoxicol.* 2014 Dec;36(6):433-41
- [4]. Chang J, et al. Combination of α -glucosidase inhibitor and ribavirin for the treatment of dengue virus infection in vitro and in vivo. *Antiviral Res.* 2011 Jan;89(1):26-34

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