

Product Data Sheet

Product Name: Ribavirin-¹³C₅

Cat. No.: GC49395

Chemical Properties

Cas. No. 1646818-35-0

SMILES O[13CH2][13C@@H]1[13C@@H](O)[13C@@H](O)[13C@]([H])(N2C=NC(C(N)=O)=N2)O1

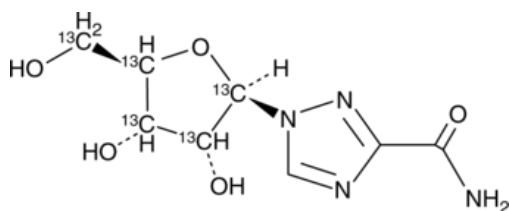
Formula C₃[¹³C]₅H₁₂N₄O₅ M.Wt 249.2

Solubility DMSO: slightly soluble, Water: slightly soluble Storage -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.

Structure



Background

Ribavirin-¹³C₅ is intended for use as an internal standard for the quantification of ribavirin by GC- or LC-MS. Ribavirin is an antiviral guanosine nucleoside analog.^{1,2} Upon entry into cells, ribavirin is metabolized to an active triphosphate form that induces viral RNA chain termination and inhibits viral polymerases. It reduces replication in a panel of seven RNA and four DNA viruses in Vero cells (EC₅₀s = 2-95 µg/ml).³ Ribavirin also reduces replication of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) in Vero cells (EC₅₀ = 109.5 µM).⁴ Aerosol administration of ribavirin (30 mg/kg) reduces mortality in a mouse model of influenza A infection.⁵ Formulations containing ribavirin have been used in the treatment of respiratory syncytial virus (RSV), hepatitis C virus (HCV), and viral hemorrhagic fevers.

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

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1. Gilbert, B.E., and Knight, V. Biochemistry and clinical applications of ribavirin *Antimicrob. Agents Chemother.* 30(2)201-205(1986) 2. Gordon, C.J., Tchesnokov, E.P., Woolner, E., et al. Remdesivir is a direct-acting antiviral that inhibits RNA-dependent RNA polymerase from severe acute respiratory syndrome coronavirus 2 with high potency *J. Biol. Chem.* 295(20)6785-6797(2020) 3. Kirsi, J.J., North, J.A., McKernan, P.A., et al. Broad-spectrum antiviral activity of 2-β-D-ribofuranosylselenazole-4-carboxamide, a new antiviral agent *Antimicrob. Agents Chemother.* 24(3)353-361(1983) 4. Wang, M., Cao, R., Zhang, L., et al. Remdesivir and chloroquine effectively inhibit the recently emerged novel coronavirus (2019-nCoV) in vitro *Cell Res.* 30(3)269-271(2020) 5. Wilson, S.Z., Knight, V., Wyde, P.R., et al. Amantadine and ribavirin aerosol treatment of influenza A and B infection in mice *Antimicrob. Agents Chemother.* 17(4)642-648(1980)

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