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Produktinformation



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Diagnostik & molekulare Diagnostik



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Zuschläge

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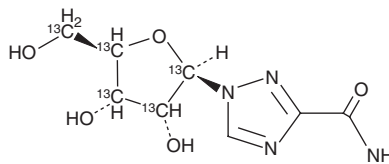


PRODUCT INFORMATION



Ribavirin-¹³C₅ Item No. 34882

CAS Registry No.: 1646818-35-0
Formal Name: 1-β-D-ribofuranosyl-1,2,3,4,5-¹³C₅-1H-1,2,4-triazole-3-carboxamide
MF: C₃[¹³C]₅H₁₂N₄O₅
FW: 249.2
Purity: ≥95%
Supplied as: A solid
Storage: -20°C
Stability: ≥2 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Ribavirin-¹³C₅ is supplied as a solid. A stock solution may be made by dissolving the ribavirin-¹³C₅ in the solvent of choice, which should be purged with an inert gas. Ribavirin-¹³C₅ is slightly soluble in DMSO.

Ribavirin-¹³C₅ is slightly soluble in aqueous solutions. To enhance aqueous solubility, dilute the organic solvent solution into aqueous buffers or isotonic saline. If performing biological experiments, ensure the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. We do not recommend storing the aqueous solution for more than one day.

Description

Ribavirin-¹³C₅ is intended for use as an internal standard for the quantification of ribavirin (Item No. 16757) 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.

References

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).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the [complete](#) Safety Data Sheet, which has been sent via email to your institution.

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