

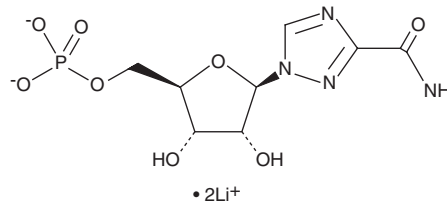
PRODUCT INFORMATION



Ribavirin 5'-monophosphate (lithium salt)

Item No. 21821

CAS Registry No.: 66983-94-6
Formal Name: 1-(5-O-phosphono-β-D-ribofuranosyl)-1H-1,2,4-triazole-3-carboxamide, dilithium salt
MF: C₈H₁₁N₄O₈P • 2Li
FW: 336.1
Purity: ≥95%
UV/Vis.: λ_{max}: 205 nm
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥4 years



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

Laboratory Procedures

Ribavirin 5'-monophosphate (lithium salt) is supplied as a crystalline solid. Aqueous solutions of ribavirin 5'-monophosphate (lithium salt) can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of ribavirin 5'-monophosphate (lithium salt) in PBS, pH 7.2, is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Ribavirin 5'-monophosphate inhibits viral DNA and RNA replication *in vitro* via the strong competitive inhibition of inosine monophosphate dehydrogenase (IMPDH), with a reported K_i value of 270 nM, and thus inhibits guanosine triphosphate synthesis.¹⁻³ This agent, a metabolite of the prodrug ribavirin (Item No. 16757), exhibits broad-spectrum antiviral activity, particularly against myxoviruses.^{2,3} The antiviral effects of ribavirin require conversion to the monophosphate form *via* adenosine kinase.^{1,3} The anti-HIV activity of ribavirin in cultured human lymphocytes, as well as the anti-influenza activity of this prodrug in MDCK cells, have been attributed to ribavirin 5'-monophosphate.^{4,5}

References

1. Willis, R.C., Carson, D.A., and Seegmiller, J.E. Adenosine kinase initiates the major route of ribavirin activation in a cultured human cell line. *Proc. Natl. Acad. Sci. USA* **75(7)**, 3042-3044 (1978).
2. Streeter, D.G., Witkowski, J.T., Khare, G.P., *et al.* Mechanism of action of 1-β-D-ribofuranosyl-1,2,4-triazole-3-carboxamide (virazole), a new broad-spectrum antiviral agent. *Proc. Natl. Acad. Sci. USA* **70(4)**, 1174-1178 (1973).
3. De Clercq, E. Specific targets for antiviral drugs. *Biochem. J.* **205**, 1-13 (1982).
4. Balzarini, J., Lee, C.K., Herdewijn, P., *et al.* Mechanism of the potentiating effect of ribavirin on the activity of 2',3'-dideoxyinosine against human immunodeficiency virus. *J. Biol. Chem.* **266(32)**, 21509-21514 (1991).
5. Browne, M.J. Mechanism and specificity of action of ribavirin. *Antimicrob. Agents Chemother.* **15(6)**, 747-753 (1979).

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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