

Product Name: Ribavirin

Catalog No.: 4501

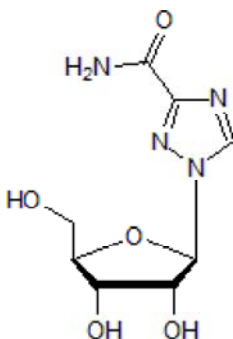
Batch No.: 2

CAS Number: 36791-04-5

IUPAC Name: 1-β-D-Ribofuranosyl-1*H*-1,2,4-triazole-3-carboxamide

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: C₈H₁₂N₄O₅
Batch Molecular Weight: 244.2
Physical Appearance: White solid
Solubility: water to 100 mM
 DMSO to 100 mM
Storage: Store at +4°C
Batch Molecular Structure:



2. ANALYTICAL DATA

HPLC: Shows 99.8% purity
¹H NMR: Consistent with structure
Mass Spectrum: Consistent with structure

Microanalysis:

	Carbon	Hydrogen	Nitrogen
Theoretical	39.35	4.95	22.94
Found	39.37	4.95	22.94

Caution - Not Fully Tested • Research Use Only • Not For Human or Veterinary Use

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Description:

Antiviral guanosine ribonucleoside analog; misincorporated into mRNA by viral-dependent RNA polymerases. Binds to and redistributes mammalian eIF4E from the nucleus to the cytoplasm ($K_i \sim 0.3 \mu\text{M}$ for the active metabolite, ribavirin triphosphate). Also inosine monophosphate dehydrogenase (IMPDH) inhibitor. Represses colony formation of primary AML-M5 progenitor cells ($IC_{50} \sim 1 \mu\text{M}$); reduces disease severity in acute myeloid leukemia (AML). Inhibits cytopathic effect of SARS-CoV in Vero cells *in vitro*. Orally available.

Physical and Chemical Properties:

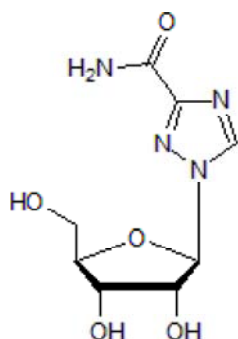
Batch Molecular Formula: $\text{C}_8\text{H}_{12}\text{N}_4\text{O}_5$

Batch Molecular Weight: 244.2

Physical Appearance: White solid

Minimum Purity: $\geq 99\%$

Batch Molecular Structure:



Storage: Store at +4°C

Solubility & Usage Info:

water to 100 mM

DMSO to 100 mM

Stability and Solubility Advice:

Some solutions can be difficult to obtain and can be encouraged by rapid stirring, sonication or gentle warming (in a 45-60°C water bath).

Information concerning product stability, particularly in solution, has rarely been reported and in most cases we can only offer a general guide. Our standard recommendations are:

SOLIDS: Provided storage is as stated on the product label and the vial is kept tightly sealed, the product can be stored for up to 6 months from date of receipt.

SOLUTIONS: We recommend that stock solutions, once prepared, are stored aliquoted in tightly sealed vials at -20°C or below and used within 1 month. Wherever possible solutions should be made up and used on the same day.

References:

Assouline et al (2009) Molecular targeting of the oncogene eIF4E in acute myeloid leukemia (AML): a proof-of-principle clinical trial with riba. *Blood* **114** 257. PMID: 19433856.

Graci and Cameron (2006) Mechanisms of action of ribavirin against distinct viruses. *Rev.Med.Virol.* **16** 37. PMID: 16287208.

Kentsis et al (2004) Ribavirin suppresses eIF4E-mediated oncogenic transformation by physical mimicry of the 7-methyl guanosine mRNA cap. *Proc.Natl.Acad.Sci.U.S.A.* **101** 18105. PMID: 15601771.

Tan et al (2004) Inhibition of SARS coronavirus infection *in vitro* with clinically approved antiviral drugs. *Emerg.Infect.Dis.* **10** 581. PMID: 15200845.

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bio-techne.com

info@bio-techne.com

techsupport@bio-techne.com

North America

Tel: (800) 343 7475

China

info.cn@bio-techne.com

Tel: +86 (21) 52380373

Europe Middle East Africa

Tel: +44 (0)1235 529449

Rest of World

www.tocris.com/distributors

Tel:+1 612 379 2956