

Store at
-20C
#65085**Ribavirin**

100 mg



Orders: 877-616-CELL (2355)
orders@cellsignal.com

Support: 877-678-TECH (8324)

Web: info@cellsignal.com
cellsignal.com

3 Trask Lane | Danvers | Massachusetts | 01923 | USA

For Research Use Only. Not for Use in Diagnostic Procedures.

Background

Ribavirin is a purine ribonucleoside analogue most widely known for its broad-spectrum anti-viral properties against both RNA and DNA viruses. Ribavirin is capable of mimicking the activity of inosine, guanosine, or adenosine and has mutagenic properties that can cause the disruption of viral genome transcription and translation. The monophosphate metabolite is a competitive inhibitor of inosine monophosphate (IMP) dehydrogenase with a K_i value of 270 nM (1-3). Ribavirin multifariousness enables simultaneous manipulation of both viral and host enzymatic processes and exhibits several immunomodulatory mechanisms including key roles in the mediation of pathways such as ERK, eIF4E, MNK1, EZH2, and MAPK (4,5). Studies have shown that *in vitro* treatment of Middle East respiratory syndrome coronavirus (MERS-CoV) with Ribavirin and interferon- α 2b reduces viral replication, making Ribavirin a compound of interest when studying severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) (6,7).

Molecular Formula

$C_8H_{12}N_4O_5$

Molecular Weight

244.2 g/mol

Purity

>98%

CAS

36791-04-5

Solubility

Soluble in DMSO at 25 mg/ml or water at 25 mg/ml.

Storage

Store lyophilized at $-20^{\circ}C$, desiccated. In lyophilized form, the chemical is stable for 24 months. Once in solution, store at $-20^{\circ}C$ and use within 1 month to prevent loss of potency. *Aliquot to avoid multiple freeze/thaw cycles.*

Directions for Use

Ribavirin is supplied as a lyophilized powder. For a 20 mM stock, reconstitute 5 mg of powder in 1.02 ml of DMSO. Working concentrations and length of treatment can vary depending on the desired effect.

Background References

1. Streeter, D.G. et al. (1973) *Proc Natl Acad Sci U S A* 70, 1174-8.
2. Gilbert, B.E. and Knight, V. (1986) *Antimicrob Agents Chemother* 30, 201-5.
3. Crotty, S. et al. (2000) *Nat Med* 6, 1375-9.
4. Graci, J.D. and Cameron, C.E. *Rev Med Virol* 16, 37-48.
5. Casaos, J. et al. (2018) *Oncotarget* 9, 8054-67.
6. Falzarano, D. et al. (2013) *Sci Rep* 3, 1686.
7. Wang, M. et al. (2020) *Cell Res* 30, 269-71.

Trademarks and Patents

Cell Signaling Technology is a trademark of Cell Signaling Technology, Inc.

All other trademarks are the property of their respective owners. Visit cellsignal.com/trademarks for more information.

Limited Uses

Except as otherwise expressly agreed in a writing signed by a legally authorized representative of CST, the following terms apply to Products provided by CST, its affiliates or its distributors. Any Customer's terms and conditions that are in addition to, or different from, those contained herein, unless separately accepted in writing by a legally authorized representative of CST, are rejected and are of no force or effect.

Products are labeled with For Research Use Only or a similar labeling statement and have not been approved, cleared, or licensed by the FDA or other regulatory foreign or domestic entity, for any purpose. Customer shall not use any Product for any diagnostic or therapeutic purpose, or otherwise in any manner that conflicts with its labeling statement. Products sold or licensed by CST are provided for Customer as the end-user and solely for research and development uses. Any use of Product for diagnostic, prophylactic or therapeutic purposes, or any purchase of Product for resale (alone or as a component) or other commercial purpose, requires a separate license from CST. Customer shall (a) not sell, license, loan, donate or otherwise transfer or make available any Product to any third party, whether alone or in combination with other materials, or use the Products to manufacture any

commercial products, (b) not copy, modify, reverse engineer, decompile, disassemble or otherwise attempt to discover the underlying structure or technology of the Products, or use the Products for the purpose of developing any products or services that would compete with CST products or services, (c) not alter or remove from the Products any trademarks, trade names, logos, patent or copyright notices or markings, (d) use the Products solely in accordance with CST Product Terms of Sale and any applicable documentation, and (e) comply with any license, terms of service or similar agreement with respect to any third party products or services used by Customer in connection with the Products.