

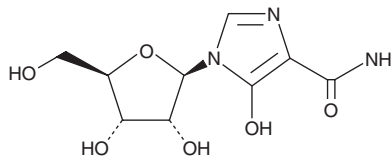
PRODUCT INFORMATION



Mizoribine

Item No. 23128

CAS Registry No.: 50924-49-7
Formal Name: 5-hydroxy-1-β-D-ribofuranosyl-1H-imidazole-4-carboxamide
Synonym: NSC 289637
MF: C₉H₁₃N₃O₆
FW: 259.2
Purity: ≥95%
UV/Vis.: λ_{max}: 242, 285 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

Mizoribine is supplied as a crystalline solid. A stock solution may be made by dissolving the mizoribine in the solvent of choice, which should be purged with an inert gas. Mizoribine is soluble in the organic solvent DMSO.

Description

Mizoribine is an imidazole nucleoside with immunosuppressive properties.¹ It inhibits T cell proliferation in response to various mitogenic stimuli by 10-100% when used at concentrations ranging from 1 to 50 μg/mL. Mizoribine inhibits proliferation of stimulated T cells (IC₅₀ = 5 μg/ml), which can be reversed by guanosine.² It also inhibits guanine nucleotide formation in T cells, reducing GTP pools by 40-60% when used at a concentration of 5 μg/ml. Mizoribine inhibits replication of hepatitis C virus (HCV) RNA *in vitro* (IC₅₀ = 100 μM).³ It suppresses glomerulosclerosis, urinary albumin excretion, interstitial fibrotic lesions, and macrophage infiltration into glomeruli and the interstitium in a rat model of type 2 diabetes when used at doses of 5 or 10 mg/kg.⁴ Mizoribine also reduces MCP-1, osteopontin (OPN), and TGF-β1 mRNA expression in the kidney in the same model. Formulations containing mizoribine have been used for the prevention of rejection after renal transplantation as well as in the treatment of lupus nephritis, rheumatoid arthritis, and primary nephritic syndrome.

References

1. Turka, L.A., Dayton, J., Singclair, G., *et al.* Guanine ribonucleotide depletion inhibits T cell activation. Mechanism of action of the immunosuppressive drug mizoribine. *J. Clin. Invest.* **87(3)**, 940-948 (1991).
2. Dayton, J.S., Turka, L.A., Thompson, C.B., *et al.* Comparison of the effects of mizoribine with those of azathioprine, 6-mercaptopurine, and mycophenolic acid on T lymphocyte proliferation and purine ribonucleotide metabolism. *Mol. Pharmacol.* **41(4)**, 671-676 (1992).
3. Naka, K., Ikeda, M., Abe, K., *et al.* Mizoribine inhibits hepatitis C virus RNA replication: Effect of combination with interferon-α. *Biochem. Biophys. Res. Commun.* **330(3)**, 871-879 (2005).
4. Kikuchi, Y., Imakiire, T., Yamada, M., *et al.* Mizoribine reduces renal injury and macrophage infiltration in non-insulin-dependent diabetic rats. *Nephrol. Dial. Transplant.* **20(8)**, 1573-1581 (2005).

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.

WARRANTY AND LIMITATION OF REMEDY

Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

Copyright Cayman Chemical Company, 12/02/2022

CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD

ANN ARBOR, MI 48108 · USA

PHONE: [800] 364-9897

[734] 971-3335

FAX: [734] 971-3640

CUSTSERV@CAYMANCHEM.COM

WWW.CAYMANCHEM.COM