

Rare Active Natural Products

PRODUCT DATA SHEET

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BVT-0304 31-May-2013

Nebularine (high purity)

[9-β-D-Ribofuranosyl-9H-purine; Purinosine; Ribosylpurine; NSC 65423; BRN 0091539]

BVT-0304-C500 500 μg BVT-0304-M001 1 mg

 $\begin{array}{lll} \text{Formula} & & C_{10} \text{H}_{12} \text{N}_4 \text{O}_4 \\ \text{MW} & & 252.2 \\ \text{CAS} & & 550\text{-}33\text{-}4 \end{array}$

Handling / Storage

Shipping AMBIENT
Short Term Storage +4°C
Long Term Storage -20°C

Protect from light when in solution.



Stable for at least 1 year after receipt when stored at -20°C. Store solutions at -20°C in the dark.

MSDS available at www.adipogen.com or upon request.

Product Specifications

Source/Host Isolated from *Streptomyces* sp.

Purity ≥98% (HPLC; NMR)
Identity Determined by ¹H-NMR.
Appearance White to off-white solid.

Soluble in DMSO or methanol.

Product Description

- · Nucleoside analog.
- Cytotoxic. DNA, RNA and protein synthesis inhibitor.
- · Shows anticancer activity.
- Anti-mycobacterial. Has tuberculostatic activity.
- · Antifungal activity.
- Antiviral (anti-Herpes).

WARNING: Intended for research use only. This product is not intended or approved for human, diagnostics, therapeutic or veterinary use. Use of this product for human or animal testing is extremely hazardous and may result in disease, severe injury, or death. **MATERIAL SAFETY DATA:** Review the complete Material Safety Data Sheet before use.

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- · Adenosine deaminase inhibitor.
- Can be used to analyze structure determinants of DNA that are recognized by DNA repair enzymes, to locate
 triple helices at G-C sequences or as an universal base, which can bind to all four of the nucleosides of DNA.

Product Specific References

- 1. 9-β-D-ribofuranosylpurine from a Streptomycete: K. Isono & S. Suzuki; J. Antibiot. **13,** 270 (1960)
- 2. Structural requirements of nucleosides for binding by adenosine deaminase: J.G. Cory & R. Suhadolnik; Biochem. **4,** 1729 (1965)
- 3. Effects of purine riboside on nucleic acid synthesis in ascites cells: V. Bohr; Biochim. Biophys. Acta **519**, 125 (1978)
- 4. Treatment of mouse neoplasms with high doses of tubercidin: T.P. Lynch, et al.; Cancer Res. 41, 3200 (1981)
- 5. Structure-activity relationship of ligands of human plasma adenosine deaminase 2: J.G. Niedzwicki & D.R. Abernethy; Biochem. Pharmacol. **41**, 1615 (1991)
- 6. Nebularine (9-2'-deoxy-beta-D-ribofuranosylpurine) has the template characteristics of adenine in vivo and in vitro: M.S Rahman & M.Z. Humayun; Mutat. Res. **377**, 263 (1997)
- 7. Virtual combinatorial syntheses and computational screening of new potential anti-herpes compounds: J.V. de Julian-Ortiz, et al.; J. Med. Chem. **42**, 3308 (1999)
- 8. Synthesis and stability of GNRA-loop analogs: K. Worner, et al.; Helv. Chim. Acta 82, 2094 (1999)
- 9. Chemical constituents of the fruiting bodies of Clitocybe nebularis and their antifungal activity: Y.-S. Kim, et al.; Mycobiol. **36,**110 (2008)
- 10. Investigations into the origin of the molecular recognition of several adenosine deaminase inhibitors: I. Gillerman & B. Fischer; J. Med. Chem. **54,** 107 (2011)

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