

# PRODUCT INFORMATION



## Nosiheptide

Item No. 17094

CAS Registry No.: 56377-79-8

Formal Name: N-[1-(aminocarbonyl)ethenyl]-2-[(11S,14Z,21S,23S,29S)-14-ethylidene-9,10,11,12,13,14,19,20,21,22,23,24,26,33,35,36-hexadecahydro-3,23-dihydroxy-11-[(1R)-1-hydroxyethyl]-31-methyl-9,12,19,24,33,43-hexaoxo-30,32-imino-8,5:18,15:40,37-trinitrilo-21,36-([2,4]-endothiazolomethanimino)-4-thiazolecarboxamide

Synonyms: Multithiomycin, NSC 307240, RP 9671

MF:  $C_{51}H_{43}N_{13}O_{12}S_6$

FW: 1,222.4

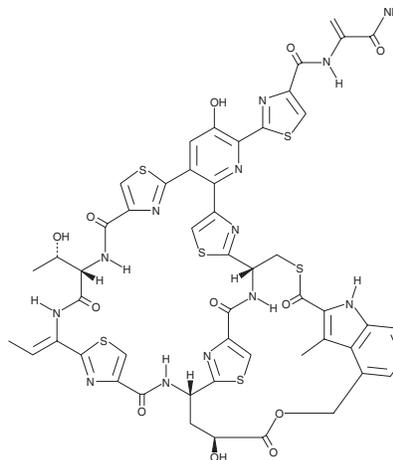
Purity:  $\geq 95\%$

UV/Vis.:  $\lambda_{max}$ : 217 nm

Supplied as: A solid

Storage:  $-20^{\circ}C$

Stability:  $\geq 4$  years



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

### Laboratory Procedures

Nosiheptide is supplied as a solid. A stock solution may be made by dissolving the nosiheptide in the solvent of choice, which should be purged with an inert gas. Nosiheptide is soluble in organic solvents such as ethanol, methanol, DMSO, and dimethyl formamide.

### Description

Nosiheptide is a thiopeptide antibiotic that inhibits bacterial protein synthesis by interfering with the function of elongation factors.<sup>1,2</sup> It is effective against many different methicillin-resistant *S. aureus* strains (MICs  $\leq 0.25$  mg/L), *Enterococcus* spp (MICs  $\leq 0.125$  mg/L), and the BI strain of *C. difficile* (MIC = 0.008 mg/L) but inactive against most Gram-negative bacteria.<sup>3</sup>

### References

1. Cundliffe, E. and Thompson, J. The mode of action of nosiheptide (multithiomycin) and the mechanism of resistance in the producing organism. *J. Gen. Microbiol.* **126**(1), 185-192 (1981).
2. Yu, Y., Duan, L., Zhang, Q., et al. Nosiheptide biosynthesis featuring a unique indole side ring formation on the characteristic thiopeptide framework. *ACS Chem. Biol.* **4**(10), 855-864 (2009).
3. Haste, N.M., Thienphrapa, W., Tran, D.N., et al. Activity of the thiopeptide antibiotic nosiheptide against contemporary strains of methicillin-resistant *Staphylococcus aureus*. *J. Antibiot. (Tokyo)* **65**(12), 593-598 (2012).

#### 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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