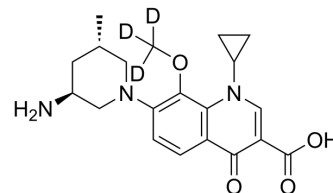


## Nemonoxacin-d<sub>3</sub>

|                           |  |       |          |
|---------------------------|--|-------|----------|
| <b>Cat. No.:</b>          | HY-14956S  |       |          |
| <b>Molecular Formula:</b> | C <sub>20</sub> H <sub>22</sub> D <sub>3</sub> N <sub>3</sub> O <sub>4</sub> |       |          |
| <b>Molecular Weight:</b>  | 374.45   |       |          |
| <b>Target:</b>            | Bacterial  |       |          |
| <b>Pathway:</b>           | Anti-infection   |       |          |
| <b>Storage:</b>           | Powder   | -20°C | 3 years  |
|                           |  | 4°C   | 2 years  |
|                           | In solvent   | -80°C | 6 months |
|                           |  | -20°C | 1 month  |



### SOLVENT & SOLUBILITY

#### In Vitro

DMSO : 50 mg/mL (133.53 mM; ultrasonic and warming and heat to 80°C)

| Concentration | Solvent | Mass | 1 mg      | 5 mg      | 10 mg      |
|---------------|---------|------|-----------|-----------|------------|
|               |         |      | 1 mM      | 2.6706 mL | 13.3529 mL |
| 5 mM          |         |      | 0.5341 mL | 2.6706 mL | 5.3412 mL  |
| 10 mM         |         |      | 0.2671 mL | 1.3353 mL | 2.6706 mL  |

Please refer to the solubility information to select the appropriate solvent.

### BIOLOGICAL ACTIVITY

#### Description

Nemonoxacin-d<sub>3</sub> is the deuterium labeled Nemonoxacin. Nemonoxacin (TG-873870) is an orally active and potent broad-spectrum antibiotic. Nemonoxacin shows good inhibitory activity against different species of staphylococci, streptococci, and enterococci, *Neisseria gonorrhoeae*, and *Haemophilus influenzae*. Nemonoxacin can be used in the study of bacterial infections and community-acquired pneumonia[1][2][3].

#### In Vitro

Stable heavy isotopes of hydrogen, carbon, and other elements have been incorporated into drug molecules, largely as tracers for quantitation during the drug development process. Deuteration has gained attention because of its potential to affect the pharmacokinetic and metabolic profiles of drugs<sup>[4]</sup>.  
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

### REFERENCES

[1]. Adam HJ, et al. In vitro activity of nemonoxacin, a novel nonfluorinated quinolone, against 2,440 clinical isolates. *Antimicrob Agents Chemother.* 2009 Nov;53(11):4915-20.

[2]. Li CR, et al. In vivo antibacterial activity of nemonoxacin, a novel non-fluorinated quinolone. *J Antimicrob Chemother.* 2010 Nov;65(11):2411-5.

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[3]. Lauderdale TL, et al. Comparative in vitro activities of nemonoxacin (TG-873870), a novel nonfluorinated quinolone, and other quinolones against clinical isolates. *Antimicrob Agents Chemother.* 2010 Mar;54(3):1338-42.

[4]. Russak EM, et al. Impact of Deuterium Substitution on the Pharmacokinetics of Pharmaceuticals. *Ann Pharmacother.* 2019;53(2):211-223.

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**Caution: Product has not been fully validated for medical applications. For research use only.**

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