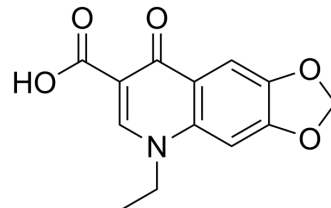


Oxolinic acid

| | | | |
|---------------------------|---|-------|---------|
| Cat. No.: | HY-B1002 | | |
| CAS No.: | 14698-29-4 | | |
| Molecular Formula: | C ₁₃ H ₁₁ NO ₅ | | |
| Molecular Weight: | 261.23 | | |
| Target: | DNA/RNA Synthesis; Bacterial; Antibiotic | | |
| Pathway: | Cell Cycle/DNA Damage; Anti-infection | | |
| Storage: | Powder | -20°C | 3 years |
| | | 4°C | 2 years |
| | In solvent | -80°C | 2 years |
| | | -20°C | 1 year |



SOLVENT & SOLUBILITY

In Vitro

DMSO : 1 mg/mL (3.83 mM; Need ultrasonic)
 H₂O : < 0.1 mg/mL (insoluble)

| Concentration | Mass | | |
|----------------------------------|-----------|------------|------------|
| | 1 mg | 5 mg | 10 mg |
| Preparing Stock Solutions | | | |
| 1 mM | 3.8280 mL | 19.1402 mL | 38.2804 mL |
| 5 mM | --- | --- | --- |
| 10 mM | --- | --- | --- |

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

BIOLOGICAL ACTIVITY

Description

Oxolinic acid is an antibiotic against both Gram-negative and Gram-positive bacteria. Oxolinic acid can be used for the research of acute and chronic urinary tract infections. Oxolinic acid is a DNA/RNA synthesis inhibitor. Oxolinic acid acts a dopamine uptake inhibitor and stimulants locomotor effect in mice^{[1][2][3]}.

IC₅₀ & Target

Antimicrobial^[1]

In Vitro

Oxolinic acid (2-5 ug/mL) inhibits 115 strains of *E. coli*^[1].
 Oxolinic acid (0-31 ug/mL) inhibits 94 % of the 44 strains of *Proteus mirabilis*^[1].
 Oxolinic acid (>5 ug/mL) inhibits all strains of *Strept. Faecalis*^[1].
 Oxolinic acid (>2 ug/mL) causes chromosomal DNA supercoiling to decrease in the two wild-type *E. coli* K-12 strains tested, DM4100 and NI747^[2].
 Oxolinic acid reduces chromosomal DNA supercoiling and inhibits RNA synthesis in *E. coli*^[2].
 MCE has not independently confirmed the accuracy of these methods. They are for reference only.

In Vivo

Oxolinic acid (32 mg/kg; i.p.) induces hyperactivity in mice^[3].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

| | |
|-----------------|--|
| Animal Model: | Male Swiss albino CD1 mice (22-25 g) ^[3] |
| Dosage: | 16 mg/kg, 32 mg/kg, 64 mg/kg, 128 mg/kg |
| Administration: | Intraperitoneal injection |
| Result: | Stimulated the horizontal activity of mice, culminated at the 32 mg/kg dose but disappeared at the highest tested dose, 128 mg/kg. |

CUSTOMER VALIDATION

- Theranostics. 2022 Jan 1;12(3):1187-1203.
- Chemosphere. 2019 Jun;225:378-387.
- J Xenobiot. 2022, 12(4), 365-377.

See more customer validations on www.MedChemExpress.com

REFERENCES

- [1]. M J Kershaw, et al. The antibacterial and pharmacological activity of oxolinic acid (Prodoxol). J Antimicrob Chemother. 1975 Sep;1(3):311-5.
- [2]. S H Manes, et al. Inhibition of RNA synthesis by oxolinic acid is unrelated to average DNA supercoiling. J Bacteriol. 1983 Jul; 155(1): 420-423.
- [3]. J Garcia de Mateos-Verchere, et al. Behavioural and neurochemical evidence that the antimicrobial agent oxolinic acid is a dopamine uptake inhibitor. Eur Neuropsychopharmacol. 1998 Dec;8(4):255-9.

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

Tel: 609-228-6898

Fax: 609-228-5909

E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA