Oxolinic acid

Product Number  O 0877
Storage Temperature  2-8 °C

Product Description
Molecular Formula:  C₁₃H₁₁NO₅
Molecular Weight:  261.2
CAS Number:  14698-29-4
Melting Point:  314-316 °C (with decomposition)¹
Synonyms:  5-ethyl-5,8-dihydro-8-oxo-1,3-dioxolo
[4,5-g]quinoline-7-carboxylic acid; 1-ethyl-1,4-dihydro-
6,7-methylenedioxy-4-oxo-3-quinolinecarboxylic acid;
1-ethyl-6,7-methylenedioxy-4-quinoline-3-carboxylic
acid

Oxolinic acid is a quinoline compound that has
antibacterial properties similar to nalidixic acid, which
is particularly active against Enterobacteriaceae.¹,²
Oxolinic acid is an inhibitor of DNA gyrase, including
DNA topoisomerases.³-⁶ A study of the binding of
oxolinic acid to DNA polynucleotides has been
reported.⁷

A report has investigated the in vitro activity of oxolinic
acid against Vibrio anguillarum isolated from diseased
cod and the in vivo pharmacokinetics of oxolinic acid
in the cod Gadus morhua L.⁸ A study of the activity of
oxolinic acid and other antibacterial compounds
against bacteria in sewage sludge has been reported.⁹

Several HPLC methods have been described for the
detection of oxolinic acid in chicken tissues and in
marine organisms.¹⁰-¹²

Precautions and Disclaimer
For Laboratory Use Only. Not for drug, household or
other uses.

Preparation Instructions
This product is soluble in 0.5 M NaOH (50 mg/ml), with
heat as needed, yielding a clear, colorless solution.
Stock solutions may also be prepared in 0.05 M
NaOH.⁶ This product is not soluble in DMSO or
dimethylformamide.

References
1. The Merck Index, 12th ed., Entry# 7079.
Reynolds, J. E. F., ed., Royal Pharmaceutical
and resolution of DNA catenanes by DNA gyrase.
gyrase inhibitors on DNA synthesis in mammalian
5. Saiki, A. Y., et al., DNA cleavage activities of
Staphylococcus aureus gyrase and topoisomerase
IV stimulated by quinolones and 2-pyridones.
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(1999).
type II topoisomerase mutant that is
hypersensitive to a broad range of cleavage-
inducing antitumor agents. Biochemistry, 41(25),
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of quinolones to DNA with alternating G,C/A,T
pharmacokinetic study of oxolinic acid and
vetoquinol, an oxolinic acid ester, in cod, Gadus
morhua L., held in sea water at 8 °C and in vitro
antibacterial activity of oxolinic acid against Vibrio
anguillarum strains isolated from diseased cod.
9. Halling-Sorensen, B., Inhibition of aerobic growth
and nitrification of bacteria in sewage sludge by
10. Pouliquen, H., et al., Rapid and simple
determination of oxolinic acid and oxytetracycline
in the shell of the blue mussel (Mytilus edulis) by
high-performance liquid chromatography.