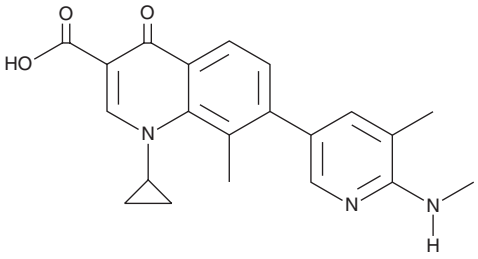
PRODUCT INFORMATION

Ozenoxacin

Item No. 41837

CAS Registry No.:	245765-41-7
Formal Name:	1-cyclopropyl-1,4-dihydro-8-methyl-7-[5-methyl-6-(methylamino)-3-pyridinyl]-4-oxo-3-quinolinecarboxylic acid
Synonym:	T-3912
MF:	$C_{21}H_{21}N_3O_3$
FW:	363.4
Purity:	≥98%
Supplied as:	A solid
Storage:	-20°C
Stability:	≥4 years



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

Laboratory Procedures

Ozenoxacin is supplied as a solid. A stock solution may be made by dissolving the ozenoxacin in the solvent of choice, which should be purged with an inert gas. Ozenoxacin is slightly soluble (0.1-1 mg/ml) in DMSO.

Description

Ozenoxacin is a quinolone antibiotic.[1] It is active against clinical isolates of *S. pyogenes*, *P aeruginosa*, and *P. acnes* and clinical isolates of antibiotic-sensitive and -resistant *S. aureus*, *S. epidermidis*, and *S. pneumoniae* (MIC_{50}s = 0.00625-1.56 mg/L). Ozenoxacin inhibits *S. aureus* DNA gyrase and topoisomerase IV (IC_{50}s = 4.5 and 0.617 mg/L, respectively). It reduces insulin- or 5α-dihydroxy testosterone-induced triglyceride production and lipid droplet formation in primary hamster sebocytes when used at a concentration of 30 µM.[2] Ozenoxacin (30 µg/ml) decreases heat-killed *C. acnes*-induced increases in IL-6 and IL-8 production in HEKa primary human keratinocytes and IL-1β, IL-6, IL-8, and TNF-α production in THP-1 monocytes.[3] Topical application of ozenoxacin (1%) decreases skin lesion bacterial counts in a mouse model of burn infection caused by *S. aureus*.[1] Formulations containing ozenoxacin have been used in the treatment of *S. aureus*- or *S. pyogenes*-associated impetigo.

References

1. Yamakawa, T., Mitsuyama, J., and Hayashi, K. *In vitro* and *in vivo* antibacterial activity of T-3912, a novel non-fluorinated topical quinolone. *J. Antimicrob. Chemother.* **49(3)**, 455-465 (2002).
2. Kitano, T., Koiwai, T., Fujikawa, K., *et al.* Ozenoxacin suppresses sebum production by inhibiting mTORC1 activation in differentiated hamster sebocytes. *J. Dermatol.* **51(9)**, 1187-1198 (2024).
3. Tabara, K., Tamura, R., Nakamura, A., *et al.* Anti-inflammatory effects of ozenoxacin, a topical quinolone antimicrobial agent. *J. Antibot. (Tokyo)* **73(4)**, 247-254 (2020).

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