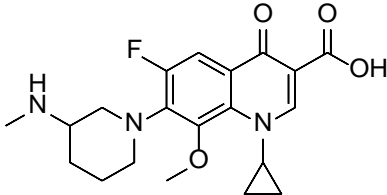


# Product data sheet



MedKoo Cat#: 524369 Name: Balofloxacin CAS#: 127294-70-6 Chemical Formula: C <sub>20</sub> H <sub>24</sub> FN <sub>3</sub> O <sub>4</sub> Exact Mass: 389.1751 Molecular Weight: 389.42		
Product supplied as:	Powder	
Purity (by HPLC):	≥ 98%	
Shipping conditions	Ambient temperature	
Storage conditions:	Powder: -20°C 3 years; 4°C 2 years. In solvent: -80°C 3 months; -20°C 2 weeks.	

## 1. Product description:

Balofloxacin is a fluoroquinolone antibiotic. Balofloxacin has shown potent bactericidal activity & inhibited the supercoiling activity of DNA gyrase of *S. aureus*, *E. coli*, & *P. aeruginosa*. It is sold under the brand name Q-Roxin in Korea.

## 2. CoA, QC data, SDS, and handling instruction

SDS and handling instruction, CoA with copies of QC data (NMR, HPLC and MS analytical spectra) can be downloaded from the product web page under “QC And Documents” section. Note: copies of analytical spectra may not be available if the product is being supplied by MedKoo partners. Whether the product was made by MedKoo or provided by its partners, the quality is 100% guaranteed.

## 3. Solubility data

Solvent	Max Conc. mg/mL	Max Conc. mM
Water	2.84	7.29
DMSO	0.84	2.16
DMF	10.0	25.68
DMF:PBS (pH 7.2) (1:1)	0.50	1.28

## 4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	2.57 mL	12.84 mL	25.68 mL
5 mM	0.51 mL	2.57 mL	5.14 mL
10 mM	0.26 mL	1.28 mL	2.57 mL
50 mM	0.05 mL	0.26 mL	0.51 mL

## 5. Molarity Calculator, Reconstitution Calculator, Dilution Calculator

Please refer the product web page under section of “Calculator”

## 6. Recommended literature which reported protocols for in vitro and in vivo study

### In vitro study

1. Jiang H, Han S, Guo C, Liu T, Wu X. In vitro and in vivo effectiveness evaluation of balofloxacin in experimental *Staphylococcus aureus* keratitis. *J Ocul Pharmacol Ther.* 2014 Aug;30(6):482-8. doi: 10.1089/jop.2013.0178. Epub 2014 May 14. PMID: 24828089.

### In vivo study

1. Jiang H, Han S, Guo C, Liu T, Wu X. In vitro and in vivo effectiveness evaluation of balofloxacin in experimental *Staphylococcus aureus* keratitis. *J Ocul Pharmacol Ther.* 2014 Aug;30(6):482-8. doi: 10.1089/jop.2013.0178. Epub 2014 May 14. PMID: 24828089.

## 7. Bioactivity

Biological target: Balofloxacin (Q-35) is a fluoroquinolone antibiotic with broad-spectrum antibacterial activity against gram-negative, gram-positive, and anaerobic bacteria.

### In vitro activity

In vitro testing compared the cellular toxicity of and bacterial susceptibility to balofloxacin and levofloxacin in human corneal epithelial cells (HCECs). In vitro toxicity examinations showed that balofloxacin, as well as levofloxacin, had low cytotoxicity in

# Product data sheet



HCECs. Balofloxacin eye drops (0.5%) also showed a similar relative cytotoxicity to levofloxacin eye drops (0.5%). In bacterial susceptibility examinations, both balofloxacin and levofloxacin significantly reduced *S. aureus* compared with the untreated control ( $P < 0.001$  for both balofloxacin and levofloxacin).

Reference: J Ocul Pharmacol Ther. 2014 Aug;30(6):482-8. [https://www.liebertpub.com/doi/10.1089/jop.2013.0178?url\\_ver=Z39.88-2003&rft\\_id=ori:rid:crossref.org&rft\\_dat=cr\\_pub%20%200pubmed](https://www.liebertpub.com/doi/10.1089/jop.2013.0178?url_ver=Z39.88-2003&rft_id=ori:rid:crossref.org&rft_dat=cr_pub%20%200pubmed)

## In vivo activity

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For in vivo testing, experimental bacterial keratitis was induced and treated with balofloxacin eye drops (0.5%) and levofloxacin eye drops (0.5%). Balofloxacin was more effective than levofloxacin in the treatment of *S. aureus* bacterial keratitis ( $P < 0.05$ ). In experimental bacterial keratitis treatment testing, balofloxacin was also more effective than levofloxacin with respect to the parameters of physiological score, histological observation, and bacterial quantitation ( $P < 0.05$ ).

Reference: J Ocul Pharmacol Ther. 2014 Aug;30(6):482-8. [https://www.liebertpub.com/doi/10.1089/jop.2013.0178?url\\_ver=Z39.88-2003&rft\\_id=ori:rid:crossref.org&rft\\_dat=cr\\_pub%20%200pubmed](https://www.liebertpub.com/doi/10.1089/jop.2013.0178?url_ver=Z39.88-2003&rft_id=ori:rid:crossref.org&rft_dat=cr_pub%20%200pubmed)

*Note: The information listed here was extracted from literature. MedKoo has not independently retested and confirmed the accuracy of these methods. Customer should use it just for a reference only.*