

# Product data sheet



MedKoo Cat#: 317968 Name: Gemifloxacin Mesylate CAS#: 210353-53-0 (mesylate) Chemical Formula: C <sub>19</sub> H <sub>24</sub> FN <sub>5</sub> O <sub>7</sub> S Molecular Weight: 485.4874		
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:

Gemifloxacin Mesylate is a third generation antibacterial quinolone agent that is also fluorinated. Gemifloxacin Mesylate is an oral broad-spectrum quinolone antibacterial agent used in the treatment of acute bacterial exacerbation of chronic bronchitis and mild-to-moderate pneumonia. Vansen Pharma Inc. has licensed the active ingredient from LG Life Sciences of Korea. Gemifloxacin has been shown to be active against most strains of the aerobic gram-positive microorganisms- *Streptococcus pneumoniae*- including multi-drug resistant *Streptococcus pneumoniae*.

## 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
DMF	10.0	20.60
DMSO	70.67	145.56
PBS (pH 7.2)	1.0	2.06
Water	73.5	151.39

## 4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	2.06 mL	10.30 mL	20.60 mL
5 mM	0.41 mL	2.06 mL	4.12 mL
10 mM	0.21 mL	1.03 mL	2.06 mL
50 mM	0.04 mL	0.21 mL	0.41 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. Kan JY, Hsu YL, Chen YH, Chen TC, Wang JY, Kuo PL. Gemifloxacin, a fluoroquinolone antimicrobial drug, inhibits migration and invasion of human colon cancer cells. *Biomed Res Int.* 2013;2013:159786. doi: 10.1155/2013/159786. Epub 2013 Dec 10. PMID: 24386633; PMCID: PMC3872387.
2. Araujo F, Shifer T, Li S, Kuver A, Fong L, Remington J. Gemifloxacin inhibits cytokine secretion by lipopolysaccharide stimulated human monocytes at the post-transcriptional level. *Clin Microbiol Infect.* 2004 Mar;10(3):213-9. doi: 10.1111/j.1198-743x.2004.00824.x. PMID: 15008941.

### In vivo study

1. Umair M, Javeed A, Ghafoor A, Ashraf M. Immunomodulatory activities of gemifloxacin in mice. *Iran J Basic Med Sci.* 2016 Sep;19(9):985-992. PMID: 27803786; PMCID: PMC5080429.

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2. Azoulay-Dupuis E, Bédos JP, Mohler J, Moine P, Cherbuliez C, Peytavin G, Fantin B, Köhler T. Activity of gemifloxacin against quinolone-resistant *Streptococcus pneumoniae* strains in vitro and in a mouse pneumonia model. *Antimicrob Agents Chemother.* 2005 Mar;49(3):1046-54. doi: 10.1128/AAC.49.3.1046-1054.2005. PMID: 15728901; PMCID: PMC549237.

## 7. Bioactivity

### Biological target:

Gemifloxacin mesylate is an oral broad-spectrum quinolone antibacterial agent, used in the treatment of acute bacterial exacerbation of chronic bronchitis, and mild-to-moderate pneumonia.

### In vitro activity

As shown in Figure 1(a), GMF (gemifloxacin) did not affect the viability of SW620 and LoVo cells at concentrations ranging from 1 to 20 µg/mL. However, GMF exhibited an inhibitory effect on the migration of SW620 and LoVo cells, as determined by wound-healing assay (Figure 1(b)). In addition, quantitative transwell analysis also revealed that GMF decreased the migration of SW620 and LoVo cells in a dose-dependent manner (Figure 1(c)). Next, this study assessed the effect of GMF on the invasive ability of colon cancer cells. Compared to vehicle-treated cells, GMF treatment attenuated SW620 and LoVo cell invasion in a dose-dependent manner after treatment for 48 hours (Figure 1(d)).

Reference: *Biomed Res Int.* 2013;2013:159786. <https://pubmed.ncbi.nlm.nih.gov/24386633/>

### In vivo activity

Negative control group is represented by 1, gemifloxacin treatment 25 mg/kg is represented by 2, gemifloxacin treatment 50 mg/kg is represented by 3 while gemifloxacin treatment 75 mg/kg is represented by 4. Significant (\*\*\*) $P < 0.001$  decrease in leukocyte count is found in group 2 and group 3 while significant (\*\*) $P < 0.01$  decrease is observed in gemifloxacin treatment 75 mg/kg. Significant ( $P < 0.05$ ) decrease in leukocyte mean value is observed in mouse treatment group 3 and 4 before cyclophosphamide administration.

Reference: *Iran J Basic Med Sci.* 2016 Sep;19(9):985-992. <https://pubmed.ncbi.nlm.nih.gov/27803786/>

*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.*