

## Small Molecules

### Gatifloxacin

Antibiotic; Inhibits bacterial DNA gyrase and topoisomerase IV

Catalog # 72752

1 g



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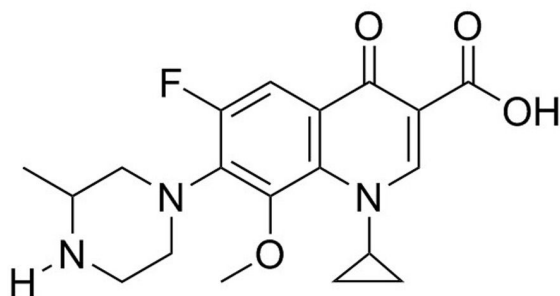
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## Product Description

Gatifloxacin is a fluoroquinolone antibiotic that inhibits bacterial DNA gyrase ( $IC_{50} = 0.109 \mu\text{g/mL}$ ) and topoisomerase IV ( $IC_{50} = 13.8 \mu\text{g/mL}$ ; Takei et al.). It is much less effective against HeLa cell topoisomerase II ( $IC_{50} = 265 \mu\text{g/mL}$ ; Takei et al.).

Molecular Name:	Gatifloxacin
Alternative Names:	AM 1155; BMS 206584-01; PD 135432
CAS Number:	112811-59-3
Chemical Formula:	$C_{19}H_{22}FN_3O_4$
Molecular Weight:	375.4 g/mol
Purity:	$\geq 98\%$
Chemical Name:	1-Cyclopropyl-6-fluoro-8-methoxy-7-(3-methylpiperazin-1-yl)-4-oxo-1,4-dihydroquinoline-3-carboxylic acid
Structure:	



## Properties

Physical Appearance:	A crystalline solid
Storage:	Product stable at $-20^{\circ}\text{C}$ as supplied. Protect from prolonged exposure to light. Stable as supplied for 12 months from date of receipt.
Solubility:	· Absolute ethanol $\leq 20 \text{ mM}$ · DMSO $\leq 45 \text{ mM}$ For example, to prepare a 20 mM stock solution in DMSO, resuspend 1 mg in 225 $\mu\text{L}$ of fresh DMSO.

Prepare stock solution fresh before use. Information regarding stability of small molecules in solution has rarely been reported, however, as a general guide we recommend storage in DMSO at  $-20^{\circ}\text{C}$ . Aliquot into working volumes to avoid repeated freeze-thaw cycles. The effect of storage of stock solution on compound performance should be tested for each application.

Compound has low solubility in aqueous media. For use as a cell culture supplement, stock solution should be diluted into culture medium immediately before use. Avoid final DMSO concentration above 0.1% due to potential cell toxicity.

## Published Applications

### MAINTENANCE AND SELF-RENEWAL

- Promotes self-renewal in cultured human and mouse embryonic stem cells (Desbordes et al.).

## References

Desbordes SC et al. (2008) High-throughput screening assay for the identification of compounds regulating self-renewal and differentiation in human embryonic stem cells. *Cell Stem Cell* 2(6): 602–12.

Takei M et al. (1998) Inhibitory activities of gatifloxacin (AM-1155), a newly developed fluoroquinolone, against bacterial and mammalian type II topoisomerases. *Antimicrob Agents Chemother* 42(10): 2678–81.

## Related Small Molecules

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**This product is hazardous. Please refer to the Safety Data Sheet (SDS).**

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