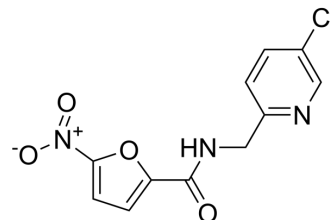


## Antibacterial agent 166

Cat. No.:	HY-155491
Molecular Formula:	C <sub>11</sub> H <sub>8</sub> ClN <sub>3</sub> O <sub>4</sub>
Molecular Weight:	281.65
Target:	Bacterial
Pathway:	Anti-infection
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



### BIOLOGICAL ACTIVITY

<b>Description</b>	Antibacterial agent 166 (Compound 19q), a derivative of Nitisinone (HY-B0607), is a selective and orally active <i>Fusobacterium nucleatum</i> inhibitor with a MIC <sub>50</sub> of 1 µg/mL. Antibacterial agent 166 effectively attenuates the migratory ability of MC-38 cells induced by <i>Fusobacterium nucleatum</i> . Antibacterial agent 166 is a promising anti-F. nucleatum lead compound and can be used for colorectal cancer (CRC) research <sup>[1]</sup> .														
<b>In Vitro</b>	<p>Antibacterial agent 166 (Compound 19q) (1-4 µg/mL, 0-72 h) inhibits the growth and biofilm formation of <i>Fusobacterium nucleatum</i> in a dose dependent manner<sup>[1]</sup>.</p> <p>Antibacterial agent 166 (1-4 µg/mL, 4-48 h) inhibits the growth of <i>Fusobacterium nucleatum</i> by downregulating the expression of NTR<sup>[1]</sup>.</p> <p>Antibacterial agent 166 (1-4 µg/mL, 48 h) downregulates the expression of the <i>tnaA</i> gene in the late-log-phase in a dose-dependent manner<sup>[1]</sup>.</p> <p>Antibacterial agent 166 (2-4 µg/mL, 48 h) possesses stronger migratory inhibition potency against MC-38 under the stimulation of <i>Fusobacterium nucleatum</i><sup>[1]</sup>.</p> <p>Antibacterial agent 166 exhibits the most potent inhibitory activity against MC-38 cells, with an IC<sub>50</sub> of 11 µM<sup>[1]</sup>.</p> <p>Antibacterial agent 166, exhibits moderate to weak antiproliferative activity two human normal cell lines with an IC<sub>50</sub> of 16 µM, possess low cytotoxicity<sup>[1]</sup>.</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p> <p>Real Time qPCR<sup>[1]</sup></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;">Cell Line:</td> <td>ATCC 23726</td> </tr> <tr> <td>Concentration:</td> <td>1-4 µg/mL</td> </tr> <tr> <td>Incubation Time:</td> <td>4-48 h</td> </tr> <tr> <td>Result:</td> <td>Downregulated the NTR gene in the stationary phase.</td> </tr> </table> <p>Cell Migration Assay<sup>[1]</sup></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;">Cell Line:</td> <td>MC-38</td> </tr> <tr> <td>Concentration:</td> <td>2-4 µg/mL</td> </tr> <tr> <td>Incubation Time:</td> <td>48 h</td> </tr> </table>	Cell Line:	ATCC 23726	Concentration:	1-4 µg/mL	Incubation Time:	4-48 h	Result:	Downregulated the NTR gene in the stationary phase.	Cell Line:	MC-38	Concentration:	2-4 µg/mL	Incubation Time:	48 h
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Incubation Time:	48 h														

	Result: Decreased the number of migrating cells.
<b>In Vivo</b>	<p>Antibacterial agent 166 (Compound 19q) (1500 mg/kg, single dose) has little toxic side effects on the organs<sup>[1]</sup>.</p> <p>Antibacterial agent 166 (20 mg/kg, p.o, single dose) can inhibit <i>Fusobacterium nucleatum</i> locally in the intestinal tract and has lower systemic toxicity<sup>[1]</sup>.</p> <p>Antibacterial agent 166 (1 mg/kg, Intravenous injection) half-life is approximately 0.068 h, the peak concentration <math>C_{max}</math> and plasma clearance (CL) were 85 ng/mL and 36054 mL/h/mg<sup>[1]</sup>.</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p>

## REFERENCES

[1]. Pan Z, et al. Discovery of New *Fusobacterium nucleatum* Inhibitors to Attenuate Migratory Capability of Colon Cancer Cells by the Drug Repositioning Strategy. *Journal of Medicinal Chemistry*. 2023 Nov 20.

**Caution: Product has not been fully validated for medical applications. For research use only.**

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