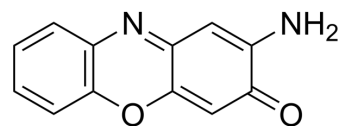


Questiomycin A

Cat. No.:	HY-N8439
CAS No.:	1916-59-2
Molecular Formula:	C ₁₂ H ₈ N ₂ O ₂
Molecular Weight:	212.2
Target:	HSP; Antibiotic; Bacterial
Pathway:	Cell Cycle/DNA Damage; Metabolic Enzyme/Protease; Anti-infection
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	Questiomycin A (Phx-3) is a GRP78 (cytoprotective endoplasmic reticulum chaperone) degrader and enhances the anticancer activity of Sorafenib. Questiomycin A is also an antimicrobial/antibiotic that can be obtained from the metabolite of <i>Pseudomonas chlororaphis</i> HT66. Questiomycin A can be used in research on biological control of cancer and plant diseases ^{[1][2]} .								
IC₅₀ & Target	GRP78, bacterial ^{[1][2]} .								
In Vitro	<p>Questiomycin A (3 μM; 24 h) induces cell death and downregulates GRP78 protein expression in HepG2 cells^[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p> <p>Cell Viability Assay^[1]</p> <table border="1"> <tr> <td>Cell Line:</td> <td>HepG2 cells</td> </tr> <tr> <td>Concentration:</td> <td>3 μM</td> </tr> <tr> <td>Incubation Time:</td> <td>24 h</td> </tr> <tr> <td>Result:</td> <td>Suppressed more than 50% of the GRP78 expression and induced cell death.</td> </tr> </table>	Cell Line:	HepG2 cells	Concentration:	3 μM	Incubation Time:	24 h	Result:	Suppressed more than 50% of the GRP78 expression and induced cell death.
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Incubation Time:	24 h								
Result:	Suppressed more than 50% of the GRP78 expression and induced cell death.								
In Vivo	<p>Questiomycin A (10 mg/kg; i.p.; once a day for 8 days) enhances the antitumor effect of Sorafenib by stimulating the downregulation of GRP78 in vivo^[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p> <table border="1"> <tr> <td>Animal Model:</td> <td>Nude mice (HepG2 cells xenograft model)^[1].</td> </tr> <tr> <td>Dosage:</td> <td>10 mg/kg</td> </tr> <tr> <td>Administration:</td> <td>Intraperitoneal injection; once a day; 8 days.</td> </tr> <tr> <td>Result:</td> <td>Stimulated Sorafenib-dependent antitumor activity.</td> </tr> </table>	Animal Model:	Nude mice (HepG2 cells xenograft model) ^[1] .	Dosage:	10 mg/kg	Administration:	Intraperitoneal injection; once a day; 8 days.	Result:	Stimulated Sorafenib-dependent antitumor activity.
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Result:	Stimulated Sorafenib-dependent antitumor activity.								

REFERENCES

[1]. Machihara K, et al. Questiomycin A stimulates sorafenib-induced cell death via suppression of glucose-regulated protein 78. *Biochem Biophys Res Commun*. 2017 Oct 7;492(1):33-40.

[2]. Guo S, et al. Production of Antibacterial Questiomycin A in Metabolically Engineered *Pseudomonas chlororaphis* HT66. *J Agric Food Chem*. 2022 Jun 29;70(25):7742-7750.

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

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