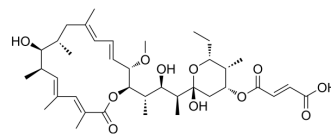


Hygrolidin

Cat. No.:	HY-133537
CAS No.:	83329-73-1
Molecular Formula:	C ₃₈ H ₅₈ O ₁₁
Molecular Weight:	690.86
Target:	Antibiotic; Fungal; ADC Cytotoxin
Pathway:	Anti-infection; Antibody-drug Conjugate/ADC Related
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	Hygrolidin is a 16-membered macrolide antibiotic produced by <i>Streptomyces hygrosopicus</i> D-1166. Hygrolidin has anti-fungus activity against <i>Valsa ceratosperma</i> . Hygrolidin induces p21 expression and abrogates cell cycle progression at G1 and S phases. Hygrolidin has antitumor activity ^{[1][2][3]} .																
IC₅₀ & Target	Macrolide																
In Vitro	<p>Hygrolidin (0.1, 1 µg/ml; for 24 h) increases both G1 and S phase populations and decreases M phase population^[1].</p> <p>Hygrolidin (0.1, 1, 10 µg/ml; for 24 h) decreases the amounts of cdk4, cyclin D, cyclin B and increases the amounts of cyclin E and p21. Hygrolidin-induced p21 preferentially associates with cyclin A-cdk2 complex and inhibits it^[1].</p> <p>Hygrolidin (0.1, 1 µg/ml; for 24 h) selectively induces p21 in DLD-1 cells at mRNA level, but not in WI-38 fibroblasts^[1].</p> <p>Hygrolidin, for 3 days, inhibits growth of various cell lines including DLD-1 colon cancer, LNCaP prostate cancer, K562 leukemia cells, LNCaP prostate cancer, EL-4 lymphoma (IC₅₀s = 1.0-33 ng/ml, respectively)^[1].</p> <p>Hygrolidin shows growth inhibition on <i>Trypanosoma cruzi</i> (IC₅₀=1.1 nM), <i>Trypanosoma brucei brucei</i> (IC₅₀=77 nM), and <i>Leishmania donovani</i> (IC₅₀=72.5 nM)^[3].</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p> <p>Cell Cycle Analysis^[1]</p> <table border="1"> <tr> <td>Cell Line:</td> <td>DLD-1 cells</td> </tr> <tr> <td>Concentration:</td> <td>0.1, 1 µg/ml</td> </tr> <tr> <td>Incubation Time:</td> <td>For 24 hours</td> </tr> <tr> <td>Result:</td> <td>Increased both G1 and S phase populations and decreased M phase population.</td> </tr> </table> <p>Western Blot Analysis^[1]</p> <table border="1"> <tr> <td>Cell Line:</td> <td>DLD-1 cells</td> </tr> <tr> <td>Concentration:</td> <td>0.1, 1, 10 µg/ml</td> </tr> <tr> <td>Incubation Time:</td> <td>For 24 hours</td> </tr> <tr> <td>Result:</td> <td>Decreased the amounts of cdk4, cyclin D, cyclin B and increased the amounts of cyclin E and p21.</td> </tr> </table>	Cell Line:	DLD-1 cells	Concentration:	0.1, 1 µg/ml	Incubation Time:	For 24 hours	Result:	Increased both G1 and S phase populations and decreased M phase population.	Cell Line:	DLD-1 cells	Concentration:	0.1, 1, 10 µg/ml	Incubation Time:	For 24 hours	Result:	Decreased the amounts of cdk4, cyclin D, cyclin B and increased the amounts of cyclin E and p21.
Cell Line:	DLD-1 cells																
Concentration:	0.1, 1 µg/ml																
Incubation Time:	For 24 hours																
Result:	Increased both G1 and S phase populations and decreased M phase population.																
Cell Line:	DLD-1 cells																
Concentration:	0.1, 1, 10 µg/ml																
Incubation Time:	For 24 hours																
Result:	Decreased the amounts of cdk4, cyclin D, cyclin B and increased the amounts of cyclin E and p21.																

RT-PCR^[1]

Cell Line:	DLD-1 or WI-38 cells
Concentration:	0.1, 1 µg/ml
Incubation Time:	For 24 hours
Result:	Selectively induced p21 in DLD-1 cells at mRNA level, but not in WI-38 fibroblasts.

REFERENCES

[1]. Manabu Kawada, et al. Hygrolidin induces p21 expression and abrogates cell cycle progression at G1 and S phases. *Biochem Biophys Res Commun*. 2002 Oct 18;298(1):178-83.

[2]. H Seto, et al. The isolation and structures of hygrolidin amide and defumarylhygrolidin. *J Antibiot (Tokyo)*. 1984 May;37(5):610-3.

[3]. F Annang, et al. High-throughput screening platform for natural product-based drug discovery against 3 neglected tropical diseases: human African trypanosomiasis, leishmaniasis, and Chagas disease. *J Biomol Screen*. 2015 Jan;20(1):82-91.

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

Tel: 609-228-6898

Fax: 609-228-5909

E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA