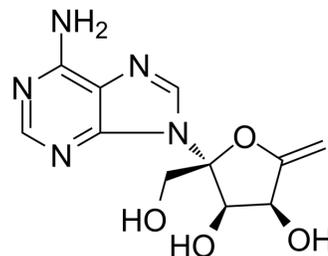


Decoyinine

Cat. No.:	HY-101835		
CAS No.:	2004-04-8		
Molecular Formula:	C ₁₁ H ₁₃ N ₅ O ₄		
Molecular Weight:	279.25		
Target:	Others		
Pathway:	Others		
Storage:	Powder	-20°C	3 years
		4°C	2 years
	In solvent	-80°C	6 months
		-20°C	1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : 50 mg/mL (179.05 mM; ultrasonic and warming and heat to 60°C)
 H₂O : 6.67 mg/mL (23.89 mM; ultrasonic and warming and heat to 60°C)

Concentration	Solvent	Mass		
		1 mg	5 mg	10 mg
Preparing Stock Solutions	1 mM	3.5810 mL	17.9051 mL	35.8102 mL
	5 mM	0.7162 mL	3.5810 mL	7.1620 mL
	10 mM	0.3581 mL	1.7905 mL	3.5810 mL

Please refer to the solubility information to select the appropriate solvent.

BIOLOGICAL ACTIVITY

Description

Decoyinine is a selective inhibitor of GMP synthetase (GMPS).

IC₅₀ & Target

GMPS^[1].

In Vitro

Decoyinine is an analog of adenosine which causes a decrease in intracellular GTP levels by inhibition of GMP synthetase. Decoyinine exerts a stimulatory effect on α -amylase synthesis only in the strain in which the catabolite repression component of α -amylase regulation has been rendered inoperable by the *gra-10* mutation. The apparent stimulation of α -amylase activity in WLN-11 by Decoyinine is not an artifactual effect exerted at the level of enzyme activity itself. It is observed that purine nucleotides, most notably GMP, exhibits a dramatic inhibitory effect on the activity of *Bacillus circulans* F-2 amylase and a less-pronounced inhibitory effect on *B. subtilis* amylase. At the concentration used in the experiments (1.07 mM), Decoyinine has no effect in vitro on *B. subtilis* WLN-11 α -amylase activity. At the same concentration, GMP exerts a slight inhibitory effect on amylase activity^[2].
 MCE has not independently confirmed the accuracy of these methods. They are for reference only.

In Vivo	It is showed that Decoyinine (Angustmycin A) treatment hinders tumor growth in xenograft mouse model. Moreover, like GMPS activity, the effect of Decoyinine does not appear to be subtype specific as it impairs growth of xenografts from cells harboring NRASQ61R (SK-Mel-103) or BRAFV600E (SK-Mel-28) mutations ^[1] . MCE has not independently confirmed the accuracy of these methods. They are for reference only.
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PROTOCOL

Cell Assay ^[2]	The isogenic strains WLN-4 (<i>sacA321 amyRJ-amyE⁺</i>) and WLN-11 (<i>sacA321 gra-10-amyE⁺</i>) are inoculated into minimal S7 medium, containing 2% (wt/vol) glucose, from washed exponential-phase seed cultures grown in the same medium. At mid-logarithmic growth phase, each culture is evenly subdivided into two flasks containing either 1/10 the culture volume of fresh S7 medium or a 1/10 volume of filter-sterilized S7 medium to which 2.5 mg of Decoyinine per ml has previously been dissolved (final Decoyinine concentration, 250 µg/mL). At regular intervals before and after the decoyinine addition, samples are removed from the cultures and the culture supernatants are assayed for a-amylase as described previously. At 16 h after the Decoyinine addition, the frequency of heatresistant spores in each culture is determined ^[2] . MCE has not independently confirmed the accuracy of these methods. They are for reference only.
Animal Administration ^[1]	Mice ^[1] SK-Mel-103 and SK-Mel-28 cells are inoculated subcutaneously in both flanks of SCID mice (18 mice/cell line). Once tumors volume reach approximately 100 mm ³ , mice are randomly assigned to one of four groups and treated with daily i.p. injections of Decoyinine (120 mg/kg), MMF (30 mg/kg), or with respective vehicles. Tumor size is measured every other day with a caliper and mice are killed once tumor volume reach 1000 mm ³ or the animals show signs of morbidity ^[1] . MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. A Bianchi-Smiraglia, et al. Pharmacological targeting of guanosine monophosphate synthase suppresses melanoma cell invasion and tumorigenicity. Cell Death Differ. 2015 Nov; 22(11): 1858–1864.

[2]. W L Nicholson, et al. Effect of Decoyinine on the regulation of alpha-amylase synthesis in Bacillus subtilis. J Bacteriol. 1987 Dec; 169(12): 5867–5869.

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

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