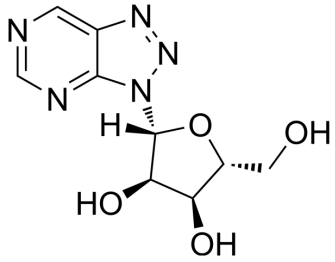
8-Azanebularine

Cat. No.:	HY-145442
CAS No.:	38874-46-3
Molecular Formula:	$C_9H_{11}N_5O_4$
Molecular Weight:	253.21
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 (197.46 mM; Need ultrasonic)
H_2O : 5 mg/mL (19.75 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	3.9493 mL	19.7465 mL	39.4929 mL
	5 mM	0.7899 mL	3.9493 mL	7.8986 mL
	10 mM	0.3949 mL	1.9746 mL	3.9493 mL

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

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 1.25 mg/mL (4.94 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 1.25 mg/mL (4.94 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 1.25 mg/mL (4.94 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

8-Azanebularine, a compound with hydrogen in place of the C6 amino group, inhibits the ADAR2 reaction at high concentrations (IC_{50}=15 mM). 8-Azanebularine is incorporated into an RNA structure recognized by human ADAR2 results in high-affinity binding (K_D=2 nM). 8-Azanebularine can be used for the research of ADAR-catalyzed RNA-editing reaction[1].

IC_{50} & Target		
	ADAR2 reaction 15 mM (IC_{50})	ADAR2 2 nM (Kd)

In Vitro	8-Azanebularine-modified RNA duplexes (0-3 μM) can inhibit ADAR1 editing of an RNA target (such as 5-HT2C and NEIL1 editing by ADAR1)[2]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. Mendoza HG, et al. Selective Inhibition of ADAR1 Using 8-Azanebularine-Modified RNA Duplexes. Biochemistry. 2023 Apr 18;62(8):1376-1387.

[2]. Haudenschild BL, et al. A transition state analogue for an RNA-editing reaction. J Am Chem Soc. 2004;126(36):11213-11219.

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