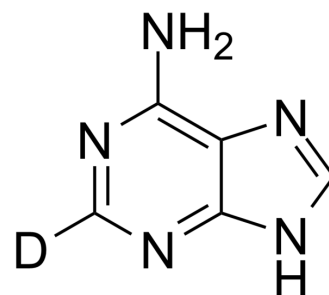


Adenine-d

Cat. No.:	HY-B0152S		
CAS No.:	109923-52-6		
Molecular Formula:	C ₅ H ₄ DN ₅		
Molecular Weight:	136.13		
Target:	DNA/RNA Synthesis; Endogenous Metabolite		
Pathway:	Cell Cycle/DNA Damage; Metabolic Enzyme/Protease		
Storage:	Powder	-20°C	3 years
		4°C	2 years
	In solvent	-80°C	6 months
		-20°C	1 month



SOLVENT & SOLUBILITY

In Vitro

1M HCl : 20 mg/mL (146.92 mM; Need ultrasonic)
 DMSO : ≥ 10 mg/mL (73.46 mM)
 DMSO : 5 mg/mL (36.73 mM; ultrasonic and warming and heat to 60°C)
 H₂O : 2 mg/mL (14.69 mM; ultrasonic and warming and heat to 60°C)
 * "≥" means soluble, but saturation unknown.

Preparing Stock Solutions	Solvent Concentration	Mass		
		1 mg	5 mg	10 mg
	1 mM	7.3459 mL	36.7296 mL	73.4592 mL
	5 mM	1.4692 mL	7.3459 mL	14.6918 mL
	10 mM	0.7346 mL	3.6730 mL	7.3459 mL

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

BIOLOGICAL ACTIVITY

Description

Adenine-d is the deuterium labeled Adenine. Adenine (6-Aminopurine), a purine, is one of the four nucleobases in the nucleic acid of DNA. Adenine acts as a chemical component of DNA and RNA. Adenine also plays an important role in biochemistry involved in cellular respiration, the form of both ATP and the cofactors (NAD and FAD), and protein synthesis[1][2][3].

In Vitro

Stable heavy isotopes of hydrogen, carbon, and other elements have been incorporated into drug molecules, largely as tracers for quantitation during the drug development process. Deuteration has gained attention because of its potential to affect the pharmacokinetic and metabolic profiles of drugs^[1].
 MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. Russak EM, et al. Impact of Deuterium Substitution on the Pharmacokinetics of Pharmaceuticals. *Ann Pharmacother.* 2019;53(2):211-216. ;ORO J, et al. Synthesis of purines under possible primitive earth conditions. I. Adenine from hydrogen cyanide. *Arch Biochem Biophys.* 1968;126:1-10.

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

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