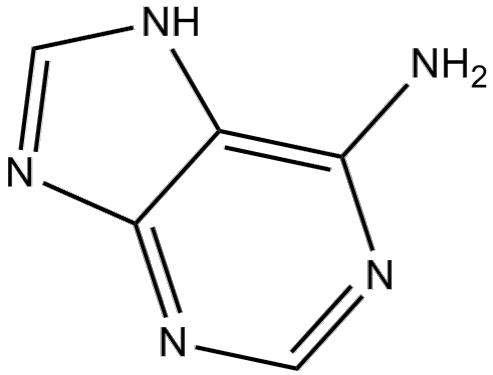
Product Data Sheet

Product Name: Adenine
Cat. No.: GC13432

Chemical Properties

Cas. No.	73-24-5		
Chemical Name	7H-purin-6-amine		
SMILES	C1=NC2=C(N1)C(=NC=N2)N		
Formula	$C_5H_5N_5$	M.Wt	135.13
Solubility	≥ 6.75mg/mL in DMSO with ultrasonic	Storage	Store at -20°C
General tips	For obtaining a higher solubility , please warm the tube at 37 °C and shake it in the ultrasonic bath for a while.Stock solution can be stored below -20°C for several months.		
Shipping Condition	Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.		

Structure



Background

Adenine is a purine derivative and a nucleobase with a variety of roles in biochemistry. Target: Nucleoside antimetabolite/analogAdenine is a nucleobase with a variety of roles in biochemistry including cellular respiration, in the form of both the energy-rich adenosine triphosphate (ATP) and the cofactors nicotinamide adenine dinucleotide (NAD) and flavin adenine dinucleotide (FAD), andprotein synthesis, as a chemical component of DNA and RNA. The shape of adenine is complementary to either thymine in DNA or uracil in RNA.In older literature, adenine was sometimes

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called Vitamin B4. It is no longer considered a true vitamin or part of the Vitamin B complex. However, two B vitamins, niacin and riboflavin, bind with adenine to form the essential cofactors nicotinamide adenine dinucleotide (NAD) and flavin adenine dinucleotide (FAD), respectively. Hermann Emil Fischer was one of the early scientists to study adenine. Experiments performed in 1961 by Joan Oró have shown that a large quantity of adenine can be synthesized from the polymerization of ammonia with fivehydrogen cyanide (HCN) molecules in aqueous solution, whether this has implications for the origin of life on Earth is under debate.

References:

[1]. Reader V. The assay of vitamin B(4). Biochem J. 1930;24(6):1827-31.
[2]. ORO J, et al. Synthesis of purines under possible primitive earth conditions. I. Adenine from hydrogen cyanide. Arch Biochem Biophys. 1961 Aug;94:217-27.

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