2,6-Diaminopurine hemisulfate salt

Product Number  D 3289
Store at Room Temperature

Product Description
Molecular Formula:  C₅H₆N₆ • ½ H₂SO₄
Molecular Weight:  199.2
CAS Number:  69369-16-0
Melting Point:  302 °C¹
λmax:  241 nm, 282 nm (pH 1.9);² 247 nm, 280 nm (0.1 M phosphate, pH 7.0)²
Extinction Coefficient:  E₅₀₀ = 9.55 (241 nm),
10 (282 nm) (pH 1.9);¹ 7.57 (247 nm), 9.05 (280 nm)
(0.1 M phosphate, pH 7.0)²
Synonyms:  DAP hemisulfate; 2-aminoadenine
hemisulfate; 1H-purine-2,6-diamine hemisulfate;
2,6-diamino-9H-purine hemisulfate¹

2,6-Diaminopurine is an adenine analogue that is an
antagonist of naturally occurring purines.¹ DAP can
base pair with thymidine in DNA, and with uracil in
RNA, to give three Watson-Crick hydrogen bonds.
This alteration in base pairing properties has led to
the use of DAP as a structural probe of molecular
recognition between ligands and DNA.²

DAP has been incorporated into anhydrohexitol
nucleosides for the preparation of heptitols nucleic
acids, and subsequent hybridization studies with DNA
and RNA.⁴ Ligase ribozymes that contain DAP and
uracil have been prepared by in vitro evolution, and
have been found to catalyze the template-directed
joining of two RNA molecules.⁵ A DAP moiety has
been incorporated in the synthesis of various
L-β-(2S,4S)- and L-α-(2S,4R)-dioxolanyl nucleosides
as potential anti-HIV compounds.⁶

The cyanophage S-2L is capable of using DAP in
place of adenine in its DNA.⁷ Salmonella typhimurium
is also able to utilize DAP as a purine source.⁸

Precautions and Disclaimer
For Laboratory Use Only. Not for drug, household or
other uses.

Preparation Instructions
This product is soluble in formic acid (50 mg/ml), with
heat as needed, yielding a clear to hazy, yellow to
yellow-green solution.

References
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3. Bailly, C., and Waring, M. J., The use of
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4. Boudou, V., et al., Base pairing of anhydrohexitol
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5. Reader, J. S., and Joyce, G. F., A ribozyme
composed of only two different nucleotides.
6. Kim, H. O., et al., L-β-(2S,4S)- and L-α-(2S,4R)-
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7. Kirnos, M. D., et al., 2-aminoadenine is an adenine
substituting for a base in S-2L cyanophage DNA.
8. Garber, B. B., and Gots, J. S., Utilization of
2,6-diaminopurine by Salmonella typhimurium.