



## Product Information

### 2-Aminopurine nitrate salt

Product Number **A 2380**  
Store at Room Temperature

#### Product Description

Molecular Formula:  $C_5H_5N_5 \cdot HNO_3$

Molecular Weight: 198.1

CAS Number: 51-16-1

$\lambda_{max}$ : 314 nm<sup>1</sup>

Extinction coefficient:  $E^{mM} = 4.0$  (0.1 M HCl)

This product is a highly mutagenic base analog.<sup>2</sup> It is a fluorescent analogue of adenine. It can be used as a substitute for adenosine, but it lacks the groups critical for hydrogen bonding. However, the fluorescent properties allow it to be used as a probe for monitoring the structure and dynamics of DNA hairpins and for detecting base unstacking. It has also been used as a fluorescent probe for DNA base flipping by methyltransferases.<sup>3</sup>

This product is also a known inhibitor of protein kinases. It selectively blocks the induction of transcription of several interferon-inducible human genes through double-stranded RNA.<sup>4</sup> Induction of mRNA 561 and 6-16 in HeLaM cells by double-stranded RNA was completely inhibited by 10 mM 2-aminopurine, whereas cellular protein and RNA syntheses, as well as the induction of metallothionein mRNA by  $CsCl_2$ , were unaffected by 2-aminopurine.

#### Precautions and Disclaimer

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

#### Preparation Instructions

This product is soluble in water (50 mg/ml) with heating at 95 °C, yielding a clear, colorless solution.

#### Storage/Stability

A 150 mM solution of 2-aminopurine can be aliquoted and stored frozen.<sup>4</sup> Before use, each aliquot needs to be thawed, heated, and mixed.

#### References

1. J. Chem. Soc., 2072 (1954).
2. Fagan, P. A., et al., An NMR study of the conformation of the 2-aminopurine: Cytosine mismatch in DNA. *Biochemistry*, **35(13)**, 4026-4033 (1996).
3. Holz, B., et al., 2-aminopurine as a fluorescent probe for DNA base flipping by methyltransferases. *Nucleic Acids Res.*, **26(4)**, 1076-1083 (1998).
4. Tiwari, R. K., et al., Gene induction by interferons and double-stranded RNA: selective inhibition by 2-aminopurine. *Mol. Cell. Biol.*, **8(10)**, 4289-4294 (1988).

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