

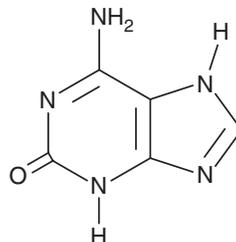
PRODUCT INFORMATION



Isoguanine

Item No. 21703

CAS Registry No.: 3373-53-3
Formal Name: 6-amino-3,7-dihydro-2H-purin-2-one
Synonyms: Crotonoside, 2-hydroxy-6-Aminopurine, 2-Hydroxyadenine, NSC 241501, 2-Oxoadenine
MF: C₅H₅N₅O
FW: 151.1
Purity: ≥95%
UV/Vis.: λ_{max}: 240, 292 nm
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Isoguanine is supplied as a crystalline solid. A stock solution may be made by dissolving the isoguanine in the solvent of choice, which should be purged with an inert gas. Isoguanine is soluble in 1 M sodium hydroxide at a concentration of approximately 50 mg/ml.

Description

Isoguanine is a natural isomer of guanine originally isolated from *Croton* seed but is also a product of oxidative damage to the adenine base in DNA.^{1,2} It can be formed through oxidative damage to deoxyadenosine and deoxyadenosine-ATP (d-ATP) as well as single- and double-stranded DNA and induces a parallel-stranded DNA structure when incorporated into DNA.^{2,3} It is mutagenic to *S. typhimurium* in the Ames test and induces sister chromatid exchange, a measure of mutagenicity, in isolated human peripheral blood lymphocytes.⁴

References

1. Cherbuliez, E. and Bernhard, K. Croton seed. I. Crotonoside (2-hydroxy-6-aminopurine-d-riboside). *Helvetica Chimica Acta* **15**, 464-471 (1932).
2. Cheng, Q., Gu, J., Compaan, K.R., et al. Isoguanine formation from adenine. *Chemistry* **18(16)**, 4877-4886 (2012).
3. Kamiya, H. and Kasai, H. 2-Hydroxyadenine (isoguanine) as oxidative DNA damage: Its formation and mutation inducibility. *Nucleic Acids Symp. Ser.* **(34)**, 233-234 (1995).
4. Arashidani, K., Iwamoto-Tanaka, N., Muraoka, M., et al. Genotoxicity of ribo- and deoxyribonucleosides of 8-hydroxyguanine, 5-hydroxycytosine, and 2-hydroxyadenine: Induction of SCE in human lymphocytes and mutagenicity in *Salmonella typhimurium* TA 100. *Mutat. Res.* **403(1-2)**, 223-227 (1998).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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