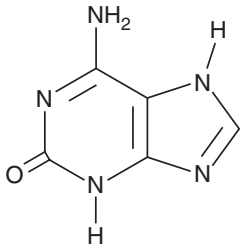
PRODUCT INFORMATION

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:	$C_5H_5N_5O$
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. tymphimurium* 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).

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