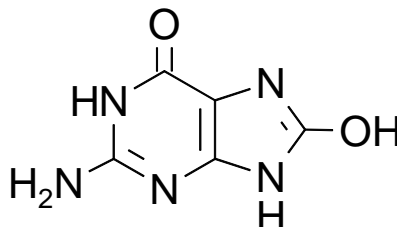


Technical Information about 8- Hydroxyguanine

Update: February 02, 2012 HU



Abbreviation: 8-OH-Gua

Formula	CAS No.	Molecular Weight	UV	BIOLOG Cat. No.
C ₅ H ₅ N ₅ O ₂	[5614-64-2]	167.1	λ_{\max} 245/293 nm / ϵ 12300/10300 / pH 7	H 002

Name: 8-Hydroxyguanine / 8-oxoguanine

Description: 8-Hydroxyguanine is an analogue of guanine where the hydrogen in position 8 of the nucleobase is replaced by a hydroxy group.

Properties: Reference for analysis of oxidative stress RNA/DNA hydrolysates. For related nucleosides and nucleotides please inquire.

Specification: Crystallized or lyophilized solid. Please keep in mind that equal amounts of the compound may look different in volume depending on humidity. Micromolar quantities are determined by weight.

Purity: Typical analysis is better than 97% (HPLC / UV / 293 nm). The product is not sterile and has not been tested for endotoxins.

Solubility: 8-Hydroxyguanine has only very low solubility in water or buffers at neutral pH, however, dissolution can be achieved under alkaline conditions (~12 mM at pH 12). When opening the tube please make sure that no substance is lost within the cap. Please rinse tube walls carefully and preferably use ultrasonic or vortex to achieve total and uniform mixing.

Stability and Storage: 8-Hydroxyguanine has sufficient stability at room temperature and does not need special care during handling or shipment. The compound and its solutions can be stored in the refrigerator for some days but should be frozen for longer storage periods.

Toxicity and Safety: Since guanine has multiple tasks in every organism it is very likely that its analogues will interfere with many cell regulation processes *in vivo*. However, due to the rather small quantities to work with no health hazards have been reported. Nevertheless please keep in mind that the *in vivo* properties of this compound are not sufficiently characterized up to now. Avoid skin contact or ingestion and allow only trained personnel to handle the product.

Our products are designed, developed and sold for research purposes only. They are intended for *in vitro* and nonhuman *in vivo* laboratory applications. Any other use requires approval of health authorities.

Not for drug, household or related uses!

Selected References for 8-OH-Gua:

Hu, C.-W.; Chao, M.-R.; Sie, C.-H., *Free Rad. Biol. Med.*, **48**, 89 - 97 (2010): "Urinary Analysis of 8-oxo-7,8-dihydroguanine and 8-oxo-7,8-dihydro-2'-deoxyguanosine by Isotope-dilution LC-MS/MS with Automated Solid-phase Extraction: Study of 8-oxo-7,8-dihydroguanine Stability"

Kaur, H.; Halliwell, B., *Biochem. J.*, **318**, 21 - 23 (1996): "Measurement of Oxidized and Methylated DNA Bases by HPLC with Electrochemical-detection"

Helbock H.J.; Beckman K.B.; Ames B.N., *Oxidants and Antioxidants*, Pt B., 156 - 166 (1999): "8-Hydroxydeoxyguanosine and 8-Hydroxyguanine as Biomarkers of Oxidative DNA Damage"