Technical Information about 8- Hydroxyguanine

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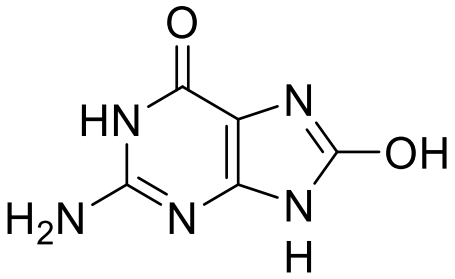

Abbreviation: **8-OH-Gua**

Formula	CAS No.	Molecular Weight	UV	BIOLOG Cat. No.
$C_5H_5N_5O_2$	[5614-64-2]	167.1	λ_{max} 245/293 nm / ε 12300/10300 / pH 7	H 002

Name: 8-Hydroxyguanine / 8-oxoguanine / 2-aminopurine-6,8-diol

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 due to sensitivity of the lyophilized form to humidity. Micromolar quantities are determined by weight.

Purity: Typical analysis is better than 95% (HPLC / UV / 293 nm). The product is not sterile and has not been tested for endotoxins.

Solubility: 8-Hydroxyguanine has very limited 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*. 8-Hydroxyguanine can cause serious irritation to eyes, skin, and respiratory/gastrointestinal tract. Avoid contact with eyes and skin or ingestion. Product is to be handled with care by trained laboratory personnel only.
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!
Material Safety Datasheet available on request.

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"

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"

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

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