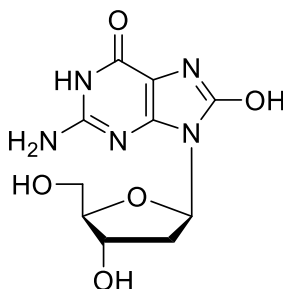


Technical Information about 2'-Deoxy-8-hydroxyguanosine

Update: September 21, 2018 нп



Abbreviation:

8-OH-dGuo

Formula	CAS No.	Molecular Weight	UV	BIOLOG Cat. No.
C ₁₀ H ₁₃ N ₅ O ₅	[88847-89-6]	283.3	λ_{\max} 245/293 nm / ϵ 12300/10300 / pH 7	D 022

Name: 2'- Deoxy- 8- hydroxyguanosine

Description: 8-OH-dGuo is an analogue of 2'-deoxyguanosine in which the hydrogen in position 8 of the nucleobase is replaced by a hydroxy group.

Properties: 8-OH-dGuo is useful as a reference for analysis of oxidative stress DNA hydrolysates. The corresponding ribo nucleoside 8-Hydroxyguanosine (Cat. No. H 001) and the nucleobase 8-Hydroxyguanine (Cat. No. H 002) are offered as well.

Specification: Lyophilized or crystallized solid. Equal concentrations of 8-OH-dGuo can appear very different in volume depending on humidity. The compound can even contract to small volume droplets. Normally the product is located in the conical bottom of the tube. Micromolar quantities are determined by UV at λ_{\max} .

Purity: Typical analysis is better than 97% (HPLC / UV / 245 nm). The product is not sterile and has not been tested for endotoxins.

Solubility: 8-OH-dGuo is soluble in water (≥ 17 mM). Please rinse tube walls carefully and preferably use ultrasonic or vortex to achieve total and uniform mixing. When opening the tube please make sure that no substance is lost within the cap.

Stability and Storage: 8-OH-dGuo is chemically rather stable and does not need special care during handling or shipment. Nevertheless, we recommend that the compound should be stored in the freezer, for longer storage periods preferably in freeze-dried form.

Toxicity and Safety: Since guanosine 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-dGuo:

Hu, C.-W.; Chao, M.-R.; Sie, C.-H., *Free Radic. 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"

Pilger, A.; Rüdiger, H.W., *Int. Arch. Occup. Environ. Health*, **80**, 1 - 15 (2006): "8-Hydroxy-2'-deoxyguanosine as a Marker of Oxidative DNA Damage Related to Occupational and Environmental Exposures"

Orimo, H.; Tokura, Y.; Hino, R.; Kasai, H., *Cancer Sci.*, **97**, 99 - 105 (2006): "Formation of 8-Hydroxy-2'-deoxyguanosine in the DNA of Cultured Human Keratinocytes by Clinically Used Doses of Narrowband and Broadband Ultraviolet B and Psoralen Plus Ultraviolet A"

Cho, B.P.; Kadlubar, F.F.; Culp, S.J.; Evans, F.E., *Chem. Res. Toxicol.*, **3**, 445 - 452 (1990): "¹⁵N Nuclear Magnetic Resonance Studies on the Tautomerism of 8-Hydroxy-2'-deoxyguanosine, 8-Hydroxyguanosine, and Other C8-substituted Guanine Nucleosides"