

Product Data Sheet

8-hydroxy Guanosine

Cat# 8OHG15-N-1	Size 1 mg	Powder
Cat# 8OHG15-N-5	Size 5 mg	Powder

CAS Registry No.: 3868-31-3

Formal Name: 7,8-dihydro-8-oxo-guanosine

Synonym: 8-Oxoguanosine

MF: C₁₀H₁₃N₅O₆

Purity: >99%

Solubility in DMSO and other organic solvents

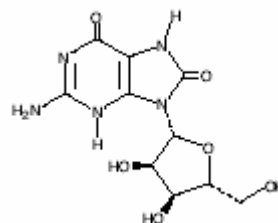
Stability: ~ year at room temperature

Storage: Store at room temp.

Supplied as: A crystalline solid

UV/Vis.: 249 nm Σ: 10,300

FW: 299.2



8-hydroxy Guanosine is supplied as a crystalline solid. A stock solution may be made by dissolving the 8-hydroxy guanosine in an organic solvent purged with an inert gas. 8-hydroxy Guanosine is soluble in organic solvents such as DMSO (up to 10 mg/ml). Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. For maximum solubility in aqueous buffers, 8-hydroxy guanosine should first be dissolved in 0.1 M HCl (solubility is at least 10 mg/ml) and then diluted with PBS (pH 7.2) to achieve the desired concentration or pH. The pH of the HCl will be neutralized by the PBS (pH 7.2) at a ratio of 1:3.5. We do not recommend storing the aqueous solution for more than one day.

8-hydroxy Guanosine is produced by oxidative damage of RNA.^{1,2} It can be measured in cell digests or in biological fluids as a marker of oxidative stress. When 8-hydroxy guanosine (5-8 mM) is added to friend erythroleukemia cells, it acts as a growth inhibitor in addition to promoting differentiation.^{3,4}

References

1. Floyd, R.A. Role of oxygen free radicals in carcinogenesis and brain ischemia. *FASEB J.* 4, 2587-2597 (1990).
2. Taddei, F., Hayakawa, H., Bouton, M.-F., et al. Counteraction by MutT protein of transcriptional errors caused by oxidative damage. *Science* 278, 128-130 (1997).
3. Mo, Y., Maki, H., and Sekiguchi, M. Hydrolytic elimination of a mutagenic nucleotide, 8-oxodGTP, by human 18-kilodalton protein: Sanitization of nucleotide pool. *Proc. Natl. Acad. Sci. USA* 89, 11021-11025 (1992).
4. Lin, T.-S., Cheng, J.-C., Ishiguro, K., et al. 8-Substituted guanosine and 2'-deoxyguanosine derivatives as potential inducers of the differentiation of friend erythroleukemia cells. *J. Med. Chem.* 28, 1194-1198 (1985).

MATERIAL SAFETY DATA

This material should be considered hazardous until information to the contrary becomes available. Do not ingest, swallow, or inhale. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. This information contains some, but not all, of the information required for the safe and proper use of this material. Before use, the user must review the complete Material Safety Data Sheet, which has been sent under separate cover to the MSD supervisor at your institution.

8OHG15-N-1-5

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