

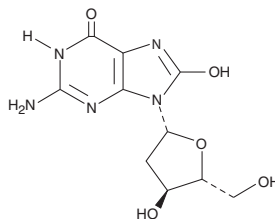
# Product Information



## 8-hydroxy-2-deoxy Guanosine

Catalog No. 89320

<b>Formal Name:</b>	2'-deoxy-8-hydroxy-guanosine
<b>Synonym:</b>	8-OH-dG
<b>MF:</b>	C <sub>10</sub> H <sub>13</sub> N <sub>5</sub> O <sub>5</sub>
<b>FW:</b>	283.2
<b>Purity:</b>	≥98%
<b>Stability:</b>	≥1 year at room temperature
<b>Supplied as:</b>	A crystalline solid
<b>UV/Vis.:</b>	λ <sub>max</sub> : 249 nm



### Laboratory Procedures

For long term storage, we suggest that 8-hydroxy-2-deoxy guanosine (8-OH-dG) be stored as supplied at room temperature. It should be stable for at least two years.

8-OH-dG is supplied as a crystalline solid. A stock solution may be made by dissolving the 8-OH-dG in an organic solvent purged with an inert gas. 8-OH-dG is soluble in DMSO. The solubility of 8-OH-dG in this solvent is at least 12 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-OH-dG 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-OH-dG is produced by oxidative damage of DNA by reactive oxygen and nitrogen species, including hydroxyl radical and peroxynitrite. It serves as a measure of oxidative stress in biological systems.<sup>1-4</sup>

### References

1. Floyd, R.A. Role of oxygen free radicals in carcinogenesis and brain ischemia. *FASEB J.* **4**, 2587-2597 (1990).
2. Beckman, K.B. and Ames, B.N. Oxidative decay of DNA. *J. Biol. Chem.* **272**, 19633-19636 (1997).
3. Spencer, J.P.E., Jenner, A., Chimel, K., *et al.* DNA strand breakage and base modification induced by hydrogen peroxide treatment of human respiratory tract epithelial cells. *FEBS Lett.* **374**, 233-236 (1995).
4. Epe, B., Ballmaier, D., Roussyn, I., *et al.* DNA damage by peroxynitrite characterized with DNA repair enzymes. *Nucleic Acids Res.* **24**, 4105-4110 (1996).

### Related Products

Epigallocatechin Gallate - Cat. No. 70935 • 8-hydroxy Guanine - Cat. No. 89290 • 8-hydroxy Guanosine - Cat. No. 89300

**WARNING: THIS PRODUCT IS FOR LABORATORY RESEARCH ONLY: NOT FOR ADMINISTRATION TO HUMANS. NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.**

#### 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 MSDS supervisor at your institution.

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Cayman Chemical Company makes **no warranty or guarantee** of any kind, whether written or oral, expressed or implied, including without limitation, any warranty of fitness for a particular purpose, suitability and merchantability, which extends beyond the description of the chemicals hereof. Cayman warrants only to the original customer that the material will meet our specifications at the time of delivery.

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