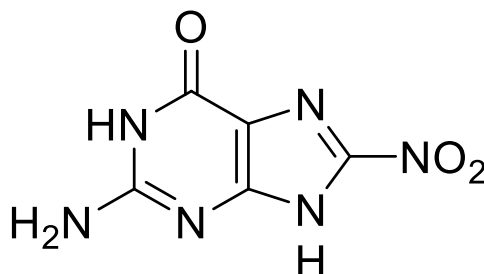


## Technical Information about 8-Nitroguanine

Potential indicator of nitric oxide-induced DNA damage

Update: September 14, 2018 HU



**Abbreviation:** 8-NO<sub>2</sub>-Gua

Formula	CAS No.	Molecular Weight	UV	BIOLOG Cat. No.
C <sub>5</sub> H <sub>4</sub> N <sub>6</sub> O <sub>3</sub>	[168701-80-2]	196.1	λ <sub>max</sub> 398 nm / ε 4100 / pH 7 <sup>1)</sup> λ <sub>max</sub> 400 nm / ε 9144 / pH 7 <sup>2)</sup>	N 003

**Name:** 8- Nitroguanine

**Description:** 8- Nitroguanine is an analogue of the purine nucleobase guanine where the hydrogen in position 8 is replaced by a nitro group.

### Properties:

- Potential indicator of nitric oxide-induced DNA damage,
- reference for analysis of nitric oxide stressed DNA fragments.

8-Nitroguanine is formed by reaction of DNA with peroxynitrite after subsequent depurination. Therefore, its presence could be evidence for damages caused by this highly reactive and strong oxidant. Peroxynitrite is formed by reaction of nitric oxide with superoxide, e.g. in inflamed tissues.

**Specification:** Crystallized or lyophilized yellow to red solid. The corresponding nucleoside, 8-Nitroguanosine, is offered as well (Cat. No. N 004). For other structures related to 8-Nitroguanine, please inquire. Please keep in mind that equal concentrations of the compound may look different in volume. Micromolar quantities are determined by weight.

**Purity:** Typical analysis is better than 95% (HPLC / UV 398 nm). The product is not sterile and has not been tested for endotoxins.

**Solubility:** The solubility of 8-Nitroguanine in water or buffer is limited, however it dissolves readily under alkaline conditions. Please rinse tube walls carefully and preferably use ultrasonic or vortex to achieve total and uniform mixing. We strongly suggest to spin the tube in a centrifuge before opening in order to concentrate the product powder at the conical bottom of the tube. When opening the tube please make sure that no substance is lost within the cap.

**Stability and Storage:** 8-Nitroguanine is chemically stable under conditions of biological systems and media. Nevertheless solutions should be stored in the refrigerator and should be lyophilized and 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!**

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