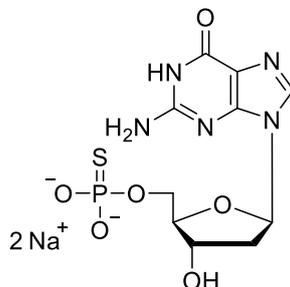


## Technical Information about 5'-dGMPS

Update: October 15, 2018 HU



**Abbreviation:** 5'-dGMPS

Formula	CAS No.	Molecular Weight	UV	BIOLOG Cat. No.
C <sub>10</sub> H <sub>14</sub> N <sub>5</sub> O <sub>6</sub> PS (free acid)	[87358-26-7]	363.3 (free acid)	$\lambda_{\max}$ 252 nm / $\epsilon$ 14300 / pH 7	D 056

**Name:** 2'- Deoxyguanosine- 5'- O- monophosphorothioate

**Description:** 5'-dGMPS is an analogue of 2'-deoxyguanosine-5'-O-monophosphate (5'-dGMP) in which one of the phosphate oxygen atoms has been replaced by sulfur.

**Properties:** 5'-dGMPS is a potential substrate, competitive inhibitor or regulator of enzymes that interact with 5'-dGMP. It can be modified with SH-reactive reporters or linked to structures with SH-groups via a disulfide bond.

**Specification:** Crystallized or lyophilized sodium salt. For other salt forms please inquire. Please keep in mind that equal concentrations of the compound may look different in volume due to high sensitivity of the lyophilized form to 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  $\lambda_{\max}$ .

**Purity:** Typical analysis is better than 97% (HPLC / UV / 252 nm). The product is not sterile and has not been tested for endotoxins.

**Solubility:** 5'-dGMPS is soluble to at least 60 mM in water, limits have not been determined. 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:** 5'-dGMPS 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 nucleoside monophosphates have multiple tasks in every organism, it is very likely that corresponding 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 5'-dGMPS:

Olsen, D.B.; Kotzorek, G.; Eckstein, F., *Biochemistry*, **29**, 9546 - 9551 (1990): "Investigation of the Inhibitory Role of Phosphorothioate Internucleotidic Linkages on the Catalytic Activity of the Restriction Endonuclease EcoRV"

Vosberg, H.P.; Eckstein, F., *Biochemistry*, **16**, 3633 - 3640 (1977): "Incorporation of Phosphorothioate Groups into fd and phi X174 DNA"