Product Data Sheet

Product Name: 8-Nitroguanine
Cat. No.: GC18426

Chemical Properties

Cas. No.	168701-80-2		
Chemical Name	2-amino-1,9-dihydro-8-nitro-6H-purin-6-one		
SMILES	O=C1C2=C(N=C([N+]([O-])=O)N2)N=C(N)N1		
Formula	$C_5H_4N_6O_3$	M.Wt	196.1
Solubility	1 M NaOH: 50 mg/ml	Storage	Store at -20°C
General tips	For obtaining a higher solubility , please warm the tube at 37 ℃ and shake it in the ultrasonic bath for a while.Stock solution can be stored below -20℃ for several months.		
Shipping Condition	Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.		
Structure	8-Nitroguanine		

Background

8-Nitroguanine is a nitrative guanine derivative formed by oxidative damage to the guanine base in DNA by reactive nitrogen species (RNS) during inflammation and in vitro by reaction of DNA with peroxynitrite and other RNS reagents. It is mutagenic and induces G:C to T:A transversion in DNA. Incorporation of 8-nitroguanine as an 8-nitroG:anti-G base pair into a primer template stalls human DNA polymerase β and induces a 2:1 preference for deoxyadenosine (dA) insertion over deoxycytosine (dC). 8-Nitroguanine levels are increased in the lung tissue of mice with conditional expression of mutant K-Ras(G12V) that developed lung adenocarcinoma and in the lung tissue and peripheral lymphocyte DNA of cigarette smoke-exposed rats. It is also increased in the lung tissue of influenza- or Sendai virus-infected mice and the colon epithelial cells of mice in an inflammatory bowel disease (IBD) model.

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