

## 6-Thioguanine

**Catalog No:** 14126, 14127

**Format:** 1 g, 100 mg

**Chemical Properties:**

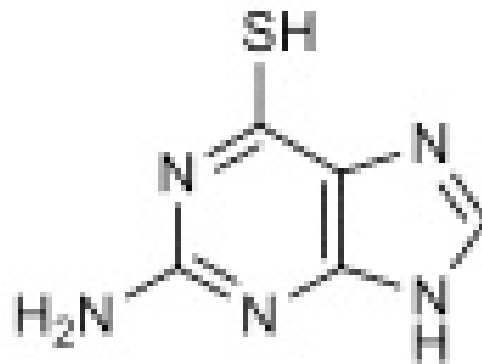
MW = 167.2

C<sub>5</sub>H<sub>5</sub>N<sub>5</sub>S

CAS 154-42-7

Physical Properties: Pale yellow powder

**Names:** 6-Thioguanine, 2-Amino-6-mercaptapurine; 6-TG; NSC 752; NSC 76504



**Pharmacology:** After incorporation into DNA, it disrupts cytosine methylation by DNA methyltransferases *in vitro* and acts as a DNA demethylating agent *in vivo* (ref 1). It reactivates epigenetically silenced genes in acute lymphoblastic leukemia cells by facilitating proteasome-mediated degradation of DNA methyltransferase (DNMT1) (ref 2). Incorporates into DNA and induces double-strand breaks which destabilize DNA structure resulting in cytotoxicity (ref 3). Selectively kills BRCA2-defective tumors and overcomes PARP inhibitor resistance in xenograft model (ref 4). Anti-cancer and immunosuppressive activity.

**Solubilization:** May be dissolved in DMF (1.5 mg/ml, warm)

**Fluorescent Properties:** N/A

**Quality Control:**

>96% (HPLC); NMR (Conforms)

**References:**

1. H Wang and Y Wang *Biochemistry* 2009, 48:2290
2. B Yuan *et al. Cancer Res.* 2011, 71:1904
3. J Bohon and CR de los Santos *Nucleic Acid Res.* 2005, 33:2880
4. N Issaeva *et al. Cancer Res.* 2010, 70:6268

**Storage and Guarantee:** Store desiccated as supplied at room temperature for up to 2 years. Store solutions at -20°C for up to 1 month. This product is for research use only and is not for use in diagnostic procedures. This product is guaranteed for 6 months from date of arrival.