**6-Thioguanine**
Inhibitor of Methyltransferases
2-Amino-6-purinethiol, 6-Mercaptoguanine
2-Amino-6-mercaptopurine
2-Amino-6-purinethiol, 6-Mercaptoguanine

**Cat. No.** | **Amount**
---|---
NU-962 | 10 mg

**Structural formula of 6-Thioguanine**

**For research use only!**

**Shipping:** shipped on blue ice  
**Storage Conditions:** store at -20 °C  
**Shelf Life:** 12 months after date of delivery

**Molecular Formula:** $C_5H_5N_5S$  
**Molecular Weight:** 167.19 g/mol  
**CAS#:** 154-42-7  
**EC number:** 205-827-2  
**Purity:** ≥ 95 % (HPLC)

**Form:** white to slightly yellow solid

**Applications:**  
*For research use only!*

**Description:**  
Thiopurines are substrates for thiopurine-methyltransferases (TPMT), which forms S-adenosyl-homocysteine and thiopurine-S-methylester from S-adenosylmethionine and thiopurines. This reaction is involved in biotransformation of xenobiotics and reduces simultaneously the concentration of S-adenosylmethionine. Both DNA-methyltransferases and histone-methyltransferases use S-adenosylmethionine as methyl donor and are therefore inhibited by thiopurines. Inhibition of DNA-methyltransferases causes DNA-demethylation or hemi-demethylation, thus regulating gene activation and silencing by creating openings that allow transcription factors to bind to DNA and thus to reactivate genes.  
Typical concentration: 0.8-2.7 µM in TPMT cells

**Related Products:**  
Jena Bioscience offers additional inhibitors for DNA-methyltransferases: 5-Aza-2’dCTP (#NU-1118), 5-Azacytidine (#NU-961), 6-Thioguanine (#NU-962) and 6-Mercaptopurine (#NU-963). See also 5-Methyl-CTP and derivatives: #NU-1138, #N-1070, #NU-932, #NU-1125, #NU-1069 and #NU-1067.

**Selected References:**  