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# DATASHEET

## 6-Thioguanine

### Product overview

|                          |                                                                      |
|--------------------------|----------------------------------------------------------------------|
| <b>Name</b>              | 6-Thioguanine                                                        |
| <b>Cat No</b>            | HB1379                                                               |
| <b>Alternative names</b> | 6-TG; Tioguanine                                                     |
| <b>Biological action</b> | Substrate                                                            |
| <b>Purity</b>            | >99%                                                                 |
| <b>Description</b>       | Competitive hypoxanthine-guanine phosphoribosyltransferase substrate |

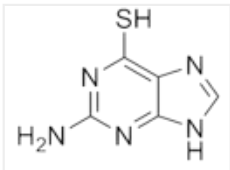
### Biological Data

|                               |                                                                                                                                                                                        |
|-------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Biological description</b> | Competitive hypoxanthine-guanine phosphoribosyltransferase substrate. An antimetabolite guanine analogue that inhibits DNA methylation. Shows anti-cancer and anti-angiogenic actions. |
|-------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

### Solubility & Handling

|                             |                                                                                                                               |
|-----------------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Storage instructions</b> | Room temperature                                                                                                              |
| <b>Solubility overview</b>  | Soluble in DMSO (100mM)                                                                                                       |
| <b>Important</b>            | This product is for RESEARCH USE ONLY and is not intended for therapeutic or diagnostic use. Not for human or veterinary use. |

### Chemical Data

|                           |                                                                                     |
|---------------------------|-------------------------------------------------------------------------------------|
| <b>Chemical name</b>      | 2-Amino-6-mercaptopurine                                                            |
| <b>Molecular Weight</b>   | 167.19                                                                              |
| <b>Chemical structure</b> |  |
| <b>Molecular Formula</b>  | C <sub>5</sub> H <sub>5</sub> N <sub>5</sub> S                                      |
| <b>CAS Number</b>         | 154-42-7                                                                            |
| <b>PubChem identifier</b> | 2723601                                                                             |
| <b>SMILES</b>             | NC1=NC(S)=C2C(NC=N2)=N1                                                             |
| <b>InChiKey</b>           | WYWHKKSPHMUBEB-UHFFFAOYSA-N                                                         |

### References

**Thioguanine, mercaptopurine: their analogs and nucleosides as antimetabolites.**

Elgemeie GH (2003) Curr Pharm Des 9(31)

**PubMedID** [14529546](#)

**6-Thioguanine perturbs cytosine methylation at the CpG dinucleotide site by DNA methyltransferases in vitro and acts as a DNA demethylating agent in vivo.**

Wang H *et al* (2009) Biochemistry 48(10)  
**PubMedID** 19236003

**Anti-angiogenic activity of the purine analog 6-thioguanine.**

Presta M *et al* (2002) Leukemia 16(8)  
**PubMedID** 12145690

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