

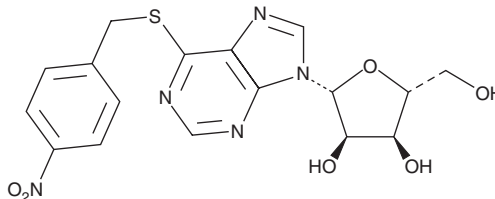
# PRODUCT INFORMATION



## S-(4-Nitrobenzyl)-6-thioinosine

Item No. 16403

**CAS Registry No.:** 38048-32-7  
**Formal Name:** 6-S-[(4-nitrophenyl)methyl]-6-thio-inosine  
**Synonyms:** NBMPR, NBTI, NSC 296962  
**MF:** C<sub>17</sub>H<sub>17</sub>N<sub>5</sub>O<sub>6</sub>S  
**FW:** 419.4  
**Purity:** ≥98%  
**UV/Vis.:** λ<sub>max</sub>: 284 nm  
**Supplied as:** A crystalline solid  
**Storage:** -20°C  
**Stability:** ≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

### Laboratory Procedures

S-(4-Nitrobenzyl)-6-thioinosine is supplied as a crystalline solid. A stock solution may be made by dissolving the S-(4-nitrobenzyl)-6-thioinosine in the solvent of choice, which should be purged with an inert gas. S-(4-Nitrobenzyl)-6-thioinosine is soluble in organic solvents such as DMSO and dimethyl formamide (DMF). The solubility of S-(4-nitrobenzyl)-6-thioinosine in these solvents is approximately 10 and 15 mg/ml, respectively.

S-(4-Nitrobenzyl)-6-thioinosine is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, S-(4-nitrobenzyl)-6-thioinosine should first be dissolved in DMF and then diluted with the aqueous buffer of choice. S-(4-Nitrobenzyl)-6-thioinosine has a solubility of approximately 0.5 mg/ml in a 1:1 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

### Description

S-(4-Nitrobenzyl)-6-thioinosine is a nucleoside analog that competitively inhibits the equilibrative nucleoside transporter 1 ( $K_d = 0.1-1.0$  nM;  $IC_{50}$ s = 4.6 and 3.6 nM in rat and human, respectively).<sup>1,2</sup> It blocks adenosine flux across the plasma membrane, thereby potentiating the interaction of extracellular adenosine with purinoreceptors, which can affect cardiac signaling associated with adenosine.<sup>2</sup>

### References

1. Aronow, B., Allen, K., Patrick, J., *et al.* Altered nucleoside transporters in mammalian cells selected for resistance to the physiological effects of inhibitors of nucleoside transport. *J. Biol. Chem.* **260**(10), 6226-6233 (1985).
2. Yao, S.Y.M., Ng, A.M.L., Muzyka, W.R., *et al.* Molecular cloning and functional characterization of nitrobenzylthioinosine (NBMPR)-sensitive (*es*) and NBMPR-insensitive (*ei*) equilibrative nucleoside transporter proteins (rENT1 and rENT2) from rat tissues. *J. Biol. Chem.* **272**(45), 28423-28430 (1997).

#### WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

#### SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the [complete](#) Safety Data Sheet, which has been sent via email to your institution.

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